

conservation (kən-sər-vā-shən)

1. the act or an instance of conserving or keeping from change, loss, injury, etc.
2. protection, preservation, and careful management of the environment

The protection, preservation, management, or restoration of natural environments and the ecological communities that inhabit them. Conservation is generally held to include the management of human use of natural resources for current public benefit and sustainable social and economic utilization.

Redefining Conservation

Annual Report 2009/2010



Environmental
Commissioner
of Ontario



"A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise."

- Aldo Leopold, *A Sand County Almanac* (1949)

Environmental
Commissioner
of Ontario



Commissaire à
l'environnement
de l'Ontario

Gord Miller, B.Sc., M.Sc.
Commissioner

Gord Miller, B.Sc., M.Sc.
Commissaire

September 2010

The Honourable Steve Peters
Speaker of the Legislative Assembly of Ontario

Room 180, Legislative Building
Legislative Assembly
Province of Ontario
Queen's Park

Dear Speaker,

In accordance with Section 58 of the *Environmental Bill of Rights, 1993*, I am pleased to present the 2009/2010 Annual Report of the Environmental Commissioner of Ontario for your submission to the Legislative Assembly of Ontario.

Sincerely,

A handwritten signature in cursive script, appearing to read 'G Miller'.

Gord Miller
Environmental Commissioner of Ontario

1075 Bay Street, Suite 605
Toronto, Ontario M5S 2B1
Tel: (416) 325-3377
Fax: (416) 325-3370
1-800-701-6456



1075, rue Bay, bureau 605
Toronto (Ontario) M5S 2B1
Tél: (416) 325-3377
Télé: (416) 325-3370
1-800-701-6456

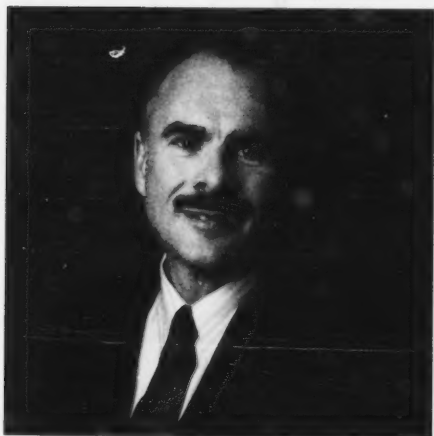
Table of Contents

	Commissioner's Message	4
1	The Environmental Bill of Rights	6
1.1	The ECO Recognition Award: Green Power for MTO's Summer Beaver Airport	8
1.2	Education and Outreach	9
2	Developing a Conserving Society	10
2.1	Powering the Future: The Green Energy and Green Economy Act, 2009	11
2.2	Ramping Up Renewables: MOE's Renewable Energy Approvals	16
2.3	MNR Approvals for Greening the Grid	21
2.4	Mandatory GHG Reporting: What Gets Measured Gets Managed	24
2.5	Pricing Carbon: Can a Cap-and-Trade System Deliver the Tonnes?	27
3	Conserving our Biodiversity	31
3.1	Climate Change and Biodiversity Turmoil	32
3.2	Wanted: One Billion Trees	37
3.3	Species at Risk: Progress and the Path Ahead	42
3.3.1	International Year of Biodiversity	42
3.3.2	Dam the American Eels	49
3.3.3	Space for the Redside Dace	52
3.4	A Place to Call Home: Nine Species Receive Regulated Habitat Protection	53
3.4.1	Much Ado About Wood Turtles	55
3.5	Mixed Results: Management of Caribou, Moose, Elk and Deer	57
3.6	Managing Black Bears: Thinking Beyond Harvest?	65
3.7	Forest Management: Conserving Biodiversity at the Stand and Site Scale	70
3.8	Bringing Ecological Integrity to the Landscape: Ontario's Protected Areas Planning Manual	75
4	Conserving Environmental Quality	79
4.1	Sewage Treatment: Not Good Enough	80
4.1.1	Ottawa's Overflow Woes	81
4.1.2	Success Story: Guelph Optimizes its Sewage Treatment	87
4.1.3	When Bigger Isn't Better: Decentralized Wastewater Treatment Systems	89
4.2	Moving From End-of-Pipe to Front-End Toxics Reduction in Ontario	90
4.3	Not Airtight: Amendments to Ontario's Air Quality Regulation	95
4.4	How's the Air on Your Street?	99
4.4.1	High Traffic Areas in Sudbury	101
4.5	A Watershed Moment? Ontario Introduces the Lake Simcoe Protection Plan	101
4.6	The Drainage Act: Drying up Ontario's Wetlands	108
5	Modernizing Mining in Ontario	113
5.1	Reforming the Mining Act	114
5.1.1	Uranium Mining	120
5.1.2	Ring of Fire: Illegal Construction of Mining-related Projects	122

5.1.3	Ring of Fire: Using Mining Claims to Plan the Far North	123
6	Rethinking Waste	125
6.1	Aging Landfills: Ontario's Forgotten Polluters	126
6.1.1	Ontario's Old Dumps: Patch Them Up or Shut Them Down	130
6.2	Shedding the Spare Tires: Rolling Out Ontario's Used Tires Program	131
6.3	Sewage Biosolids: New Rules for Use on Agricultural Land	132
6.4	Compost: Appreciating Nature's Sense of Humus	135
6.4.1	Biochar: The Promising Future for an Ancient Process	141
7	Public Concerns Raised: Applications	143
7.1	Pushing for Natural Heritage Planning on the Waterloo and Paris-Galt Moraines	145
7.2	The Potential Impacts of Electricity Projects on the Environment	150
7.3	Sand Excavation: When a "Pit" is not a "Pit"	155
7.4	Not Enough Time: Challenging the Appeal Period under the EBR	157
7.5	Too Much Time Wasted in Cambridge Groundwater Contamination	159
7.5.1	Investigation Denied: A Convenient Dodge of an EBR Responsibility	162
7.6	Planning for Stormy Weather	162
7.7	Protecting Tourism Values in Temagami	164
7.8	More Applications of Interest: Energy Audits, Biomedical Waste and Funding for Conservation Authorities	166
8	Ministries and the EBR	167
8.1	Keeping the EBR in Sync with New Laws	168
8.2	Statements of Environmental Values Consideration: Some Best Practices	170
8.3	No Longer in Service: Spot-Checks on Ministry Service to the Public	174
8.4	Ministry Cooperation with the ECO	178
9	The Environmental Registry	181
9.1	Quality of Posting Information	182
9.1.1	Every Comment Counts	185
9.2	Reviews of Unposted Decisions	186
9.3	Use of Information Notices	189
9.3.1	Cage Aquaculture Licenses: Fishy Public Consultation	191
9.4	Use of Exception Notices	193
9.5	Late Decision Notices and Undecided Proposals	194
10	Appeals, Lawsuits and Whistleblowers	196
Appendix A	Summary of 2009/2010 ECO Recommendations	201
Appendix B	Financial Statement	203
Appendix C	Ministry Comments	205
Index		225

Commissioner's Message

Not that many years ago, when I was a boy, the term "conservation" was used to denote behaviour that later became known as environmental activity (although it is worthy of note that many of the conservationists of the 20th century would object to be called environmentalists). Thus, we formed conservation authorities to look after our watersheds and taught wildlife conservation in our universities. We practiced energy and water conservation for practical reasons because there was not enough, or we did it because it seemed to be the right thing to do. Conservation had an opposite concept called "waste," as in "why would you waste that?" Failing to use something wisely or using an excess of something for no good reason was wasteful. This was seen as a morally bad thing that was widely frowned upon. There was also an aspect of the conservation ethic that obliged you to take only what you need and leave some for someone else. That someone else might be other living persons, future generations or even Mother Nature.



Undoubtedly these concepts of conservation and waste were deeply rooted in our rural past, but I suspect that the acute shortages of the Great Depression and World War II honed them into the psyche of my parent's generation. My father, who experienced deprivation as a prisoner of war, for years after would stoop and pick up items from the sidewalk, even a piece of string a few centimetres long, and unconsciously put them in his pocket. The need to conserve was that deeply ingrained.

I'd like to think that those values and ideas were embedded in my generation too but somehow, sometime they slipped away. Growth became our mantra. The term waste became redefined not as something bad but simply as something we want to get rid of. Excess consumption almost became synonymous with success. Gross Domestic Product had to expand exponentially and with it,

our extraction of the Earth's energy and material resources. Of course, this way of living really was too good to be true, and the early signs of that folly began to emerge in the 1970s as environmental degradation, Third World poverty and the energy crisis came to global attention. Our solution, with an appropriate bow to the god of growth, was sustainable development (characterized in *Our Common Future*, 1987). Sustainable development said we could continue to grow but we must do it in a sustainable way that would not degrade the environment in the long-term or compromise the ability of future generations to meet their needs. It required that those who were more affluent adopt lifestyles within the planet's ecological means, and that population size and growth be kept in harmony with the changing production potential of the ecosystem. It was a laudable goal and I think, in 1987, it was still achievable.

We didn't do it though. Despite all the efforts of thousands if not millions of people over the last 23 years who have pursued sustainability with great sincerity, we did not change western society from its destructive course.

And now our world is different. The climate has been permanently altered and is on an escalating vector of change, not because of what we are going to put into the atmosphere in the future but as a consequence of what we have already done. Based on studies of the planet's climate history it has been determined that the concentration of CO₂ in the atmosphere that will keep our climate reasonable for our civilization in the long term is about 350 parts per million (ppm). The present concentration is 390 ppm, and rising by 2 ppm annually. Heat in the tropics is lowering agricultural yield as the population rises. Dissolving CO₂ has acidified the oceans to a degree that coral polyps and molluscs soon may not be able to form their shells. Sea level is rising at an accelerating pace. Extreme weather events occur with such frequency that we now talk about disaster relief fatigue.

And that's not all that is changing. Our insatiable extraction of the seas has led to declining worldwide fish stocks. Through a wide variety of landscape conversions for human use and the general destruction of habitat, species are becoming extinct globally at a rate unseen since the destruction of the dinosaurs in the wake of a gigantic meteorite impact.

And how have we managed water supplies for future generations? Millions of people in arid western North America rely on water from glaciers that are melting so fast they will be gone in a few decades. The entire volume of the Colorado River is consumed before it reaches the sea. The Ogallala Aquifer, which supports agriculture throughout a huge area of the Great Plains, has been drawn down over 45 metres in some areas and is heading to depletion. Similar stories repeat around the globe.

The world definitely is a different place. It is clear that we have already degraded the environment in the long-term and we have significantly compromised the ability of future generations to meet their needs. The lofty goal of sustainable development is, regrettably, off the table. What is actually "sustainable" is not what we are doing, but something less. Something that involves making do with less and using what we have more wisely. This is not a choice for us; this is the reality being imposed on us by the world we have created.

Perhaps it is time to reconsider those old values we called conservation. But even the conservation ideas of the previous century are not enough. We need more than that. We need a concept of conservation that is based in our new understanding of ecological processes and the appropriate use of resources. Our conservation ethic must consider the cumulative impacts of our activities, incorporate a precautionary approach to decision making and include intergenerational equity in our considerations. To be successfully applied, conservation ideals must be integrated into our economic system.

The new reality requires a fundamental change in the way we live and function. It requires a move to a redefined conservation ethic. Something that is suited to the challenges of this changing world. And that ethic has to be deeply ingrained into our collective psyche. So much so that one day we may find ourselves unconsciously picking up little bits of string from the sidewalk.



Photo: C. Wilkinson

Part One

The Environmental Bill of Rights

The *Environmental Bill of Rights, 1993 (EBR)* gives the people of Ontario the right to participate in decisions that affect the environment made by ministries prescribed under the Act. The *EBR* helps to make ministries accountable for their environmental decisions, and ensures that these decisions are made in accordance with the goal all Ontarians hold in common — to protect, conserve, and restore the natural environment for present and future generations. The provincial government has the primary responsibility for achieving this goal, but the *EBR* provides the people of Ontario with the means to ensure it is achieved in a timely, effective, open and fair manner.

The *EBR* gives Ontarians the right to:

- comment on environmentally significant ministry proposals;
- ask a ministry to review a policy, act, regulation or instrument;
- ask a ministry to investigate alleged harm to the environment;
- appeal certain ministry decisions; and,
- take court action to prevent environmental harm.

Statements of Environmental Values

Each of the ministries subject to the *EBR* has prepared a Statement of Environmental Values (SEV). The SEV guides the minister and ministry staff when they make decisions that might affect the environment. Each SEV should explain how the ministry will consider the environment when it makes an environmentally significant decision, and how environmental values will be integrated with social, economic and scientific considerations. Each minister makes commitments in the ministry's SEV that are specific to the work of that particular ministry.

The Environmental Commissioner and the ECO Annual Report

The Environmental Commissioner of Ontario (ECO) is an independent officer of the Legislative Assembly and is appointed for a five-year term. The Commissioner reports annually to the Legislative Assembly — not to the governing party or to provincial ministries.

In the Annual Report to the Ontario Legislature, the Environmental Commissioner reviews and reports on the government's compliance with the *EBR*. The ECO and staff carefully review how ministers exercised discretion and carried out their responsibilities during the year in relation to the *EBR*, and whether ministry staff complied with the procedural and technical requirements of the law. The actions and decisions of provincial ministers are monitored to see whether they are consistent with the ministries' SEVs.

A glossary of key terms used in the Annual Report is available on the ECO website at www.eco.on.ca. Finally, a Supplement to the report provides further detail on the *EBR*-activity during the reporting period.

The Environmental Registry

The Environmental Registry is the primary mechanism for the public participation provisions of the *Environmental Bill of Rights, 1993*. The Registry is an internet site where ministries are required to post notices of environmentally significant proposals. The public has the right to comment on the proposals before decisions are made, and ministries must consider these comments when they make their final decisions and explain how the comments affected their decisions. For complete information on the Environmental Registry and the ECO's evaluation of its use by the prescribed ministries, see Part 9 of this Annual Report.

The Environmental Registry can be accessed at: www.ebr.gov.on.ca

Ministries Prescribed Under the EBR

Agriculture, Food and Rural Affairs (OMAFRA)
Consumer Services (MCS)
Economic Development and Trade (MEDT)
Energy and Infrastructure (MEI)*
Environment (MOE)
Government Services (MGS)
Health and Long-Term Care (MOHLTC)
Labour (MOL)
Municipal Affairs and Housing (MMAH)
Natural Resources (MNR)
Northern Development, Mines and Forestry (MNDMF)
Tourism and Culture (MTC)**
Transportation (MTO)

* In August 2010, MEI was separated into the Ministry of Energy and the Ministry of Infrastructure.

** The Ministries of Tourism and Culture were merged in January 2010.

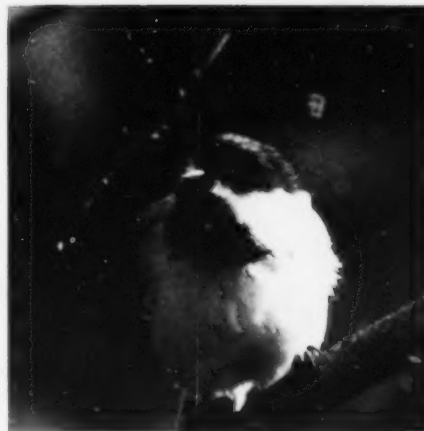
1.1 The ECO Recognition Award: Green Power for MTO's Summer Beaver Airport

Each year, the Environmental Commissioner of Ontario invites ministries to submit programs and projects for special recognition. The ECO's Recognition Award acknowledges those ministries that best meet the goals of the *Environmental Bill of Rights, 1993 (EBR)* or use the best internal *EBR* practices. This past year, four ministries responded to our call for nominations, submitting a total of 15 projects for consideration. An arm's-length panel reviewed the submissions.

This year's ECO Recognition Award is being presented to staff of the Ministry of Transportation (MTO) for their project to make the Summer Beaver Airport the first airport in Canada to be almost entirely powered by renewable energy. The ministry operates 29 remote airports in Ontario's far north in First Nation communities that do not have all-weather road connections to the rest of Ontario. These airports are a crucial link in the transportation of people, materials, equipment and supplies. Using

solar and wind power, MTO staff greatly reduced the need for diesel power at the Summer Beaver Airport, substantially reducing fuel use and greenhouse gas emissions. The success of this project has led MTO to consider using renewable energy sources at other airports it operates.

The ECO is also giving honourable mention this year to MTO staff for their project aimed at the recycling of road-building materials and reuse of waste materials. MTO staff have developed new test methods to better predict the performance of road building materials to allow the use of more recycled and recovered waste material without jeopardizing pavement quality. Between 2005 and 2008, these pilot programs resulted in the utilization of 8.3 million tonnes of road building aggregate that came from recycled road building or recovered waste materials, such as rubber tires and roofing shingles.

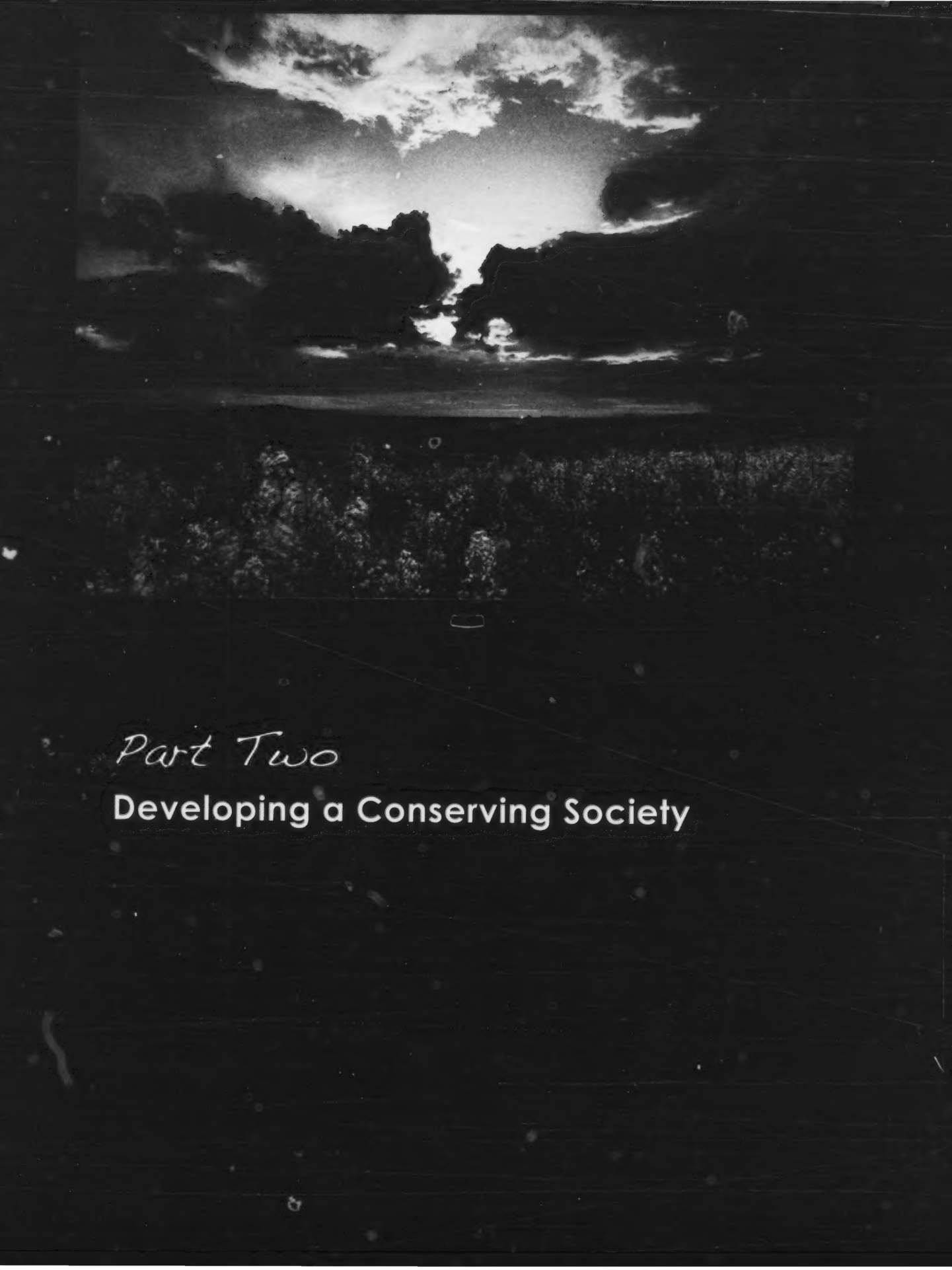


1.2 Education and Outreach

The Environmental Commissioner of Ontario is reaching out to members of the Ontario public in a variety of ways. Our website at www.eco.on.ca continues to be the main source of information about the *Environmental Bill of Rights, 1993* and the activities of the ECO, but now the public can stay in touch through our ECO blog, Facebook page and Twitter feed as well.

Every year the Public Information and Outreach Officer at the ECO receives well over a thousand queries on a variety of environmental concerns, and answers questions from members of the public who are interested in exercising their rights under the EBR. In fact, this year close to 1,200 enquiries were handled. As the mandate of the ECO now includes reporting on the province's progress in reducing greenhouse gas emissions, as well as energy conservation activities within Ontario, the number of individuals with enquiries continues to rise.

The ECO also manages an active outreach program, staffing exhibits at conferences, symposia and other events, and sharing information about the EBR with new and targeted audiences. Furthermore, the Outreach Officer at the ECO is now available to make presentations on public rights under the EBR to groups or classes who wish to learn more. Staff at the ECO continue to make presentations to university students, environmental groups and even senior level high-school groups on request. For more information, contact us at commissioner@eco.on.ca.



Part Two

Developing a Conserving Society

Ontario faces many challenges as it enters the second decade of the 21st century. The economy is recovering from the effects of the recession that began in late 2008. But, the economy is changing, moving away from such "high carbon footprint" primary industries as iron and steel and pulp and paper to a "greener" economy based on more efficient manufacturing, renewable energy and information technology. At the same time, the environment is facing unprecedented challenges from a growing population, increased pressures on aging infrastructure and a continuing upward trend in greenhouse gas emissions that contribute to climate change.

The Ontario government has responded to this "perfect storm" of challenges – and opportunities – with an ambitious agenda of legislative initiatives and policies to green the economy while fostering a "culture of conservation" within the energy sector. This part of the Annual Report describes the role that the *Green Energy and Green Economy Act, 2009* will play in helping to bring about this fundamental change. As well, this part describes the promise (and pitfalls) of fast-tracking renewable sources of electricity and the development of a "smarter" grid.

This part also describes amendments made to the *Environmental Protection Act* that are designed to provide a better understanding of where greenhouse gas emissions originate in the province – through mandatory reporting of these emissions by companies within key sectors of the economy. As well, the amendments have established the legislative basis for pricing carbon emissions through the introduction of a cap-and-trade system. Pricing carbon and identifying the big emitters are necessary precursors to the development of a low-carbon economy.

The need to develop a conserving society underscores the maxim that "the economy is the wholly-owned subsidiary of the environment." We ignore this principle at our peril. But, in embracing the spirit and intent of these legislative initiatives, we should not lose sight of an equally important principle: to safeguard every citizen's right to a fair, transparent and open process of consultation and public participation in this crucial decision-making.

2.1 Powering the Future: The *Green Energy and Green Economy Act, 2009*

In May 2009, Ontario's energy policy landscape underwent a fundamental transformation. With the passage of the *Green Energy and Green Economy Act, 2009* (GEGEA), the government put in place a policy framework that has the potential to significantly shift the province towards a greener energy path. Wide-reaching in scope, the GEGEA not only enacted the stand-alone *Green Energy Act, 2009* (GEA), but also amended 18 statutes and repealed two others.

The GEGEA represents a major change to the institutional and regulatory framework for electricity and renewable energy initiatives in the province. While establishing policy at a high level, its full implementation will require significant regulatory and policy changes over the next few years.

The underlying goals of the GEGEA are to: stimulate the economy; improve the environment by reducing greenhouse gas emissions; and transform the electricity infrastructure in Ontario. Key elements of the GEGEA are designed to facilitate the development of renewable electricity generation, promote increased energy conservation and efficiency, and enhance the capability of the electricity grid to effectively transmit and distribute energy across the province.

Promoting Renewables

The GEGEA contains several key initiatives to promote renewable energy generation in Ontario. Along with changing the electricity procurement rules through a Feed-in Tariff program, the GEGEA also laid the groundwork for a streamlined approvals process for renewable energy projects, as well as the development of a smart grid.

Feed-in Tariff (FIT) Program

The commitment to move forward with a Feed-in Tariff (FIT) program was one of the key tools within the GEGEA to promote renewable energy generation. A FIT program enhances the expansion of renewable energy in two ways: (1) by providing renewable energy projects access and a connection to the grid; and (2) by guaranteeing a reasonable return on investment by setting a suitable price for a set period of time for the electricity produced. The overall goal of a FIT program is to provide a stable environment to increase investor confidence and stimulate investment in renewable energy projects.

The *Electricity Act*, 1998 was amended and the Ontario Power Authority (OPA) was authorized to develop a FIT program that includes both of these key elements. Along with stimulating the growth of renewable energy, other policy objectives were incorporated, such as creating jobs and increasing the participation of local communities and Aboriginal groups in renewable projects.

In October 2009, the OPA launched a FIT program. The program is designed for renewable energy projects over 10 kilowatts (kW) in size, while smaller projects follow a similar microFIT program. The program rules outline the prices that are to be paid for renewable energy. Since the cost to supply electricity varies with the type of generation (i.e., wind versus solar) and project size, the FIT program establishes different prices based on these factors. For example, a biomass project over 10 megawatts (MW) in size will receive 13.0 cents per kilowatt-hour (¢/kWh), whereas a landfill gas project the same size will receive 10.3 ¢/kWh. In both cases, smaller projects will receive slightly higher prices. As well, location plays a role in determining the price paid. For example, onshore wind projects will receive 13.5 ¢/kWh, whereas offshore wind projects will receive 19.0 ¢/kWh. In order to increase the participation of community and Aboriginal groups, these groups receive higher prices under the FIT program.

By April 2010, 694 mid- to large-scale projects had been awarded FIT contracts, representing over 2,500 MW in generating capacity. Several thousand smaller projects have also received conditional offers through the microFIT program.

A Streamlined Process for Renewable Energy Approvals

The GEGEA also amended the *Environmental Protection Act* (EPA) to create a new class of renewable energy approvals. In September 2009, Ontario Regulation 359/09 – Renewable Energy Approvals, made under the EPA, came into force and established a new, streamlined approvals process which must be followed to proceed with a renewable energy project. For more information, please see Part 2.2 of this Annual Report.

Smart Grid

At present, the Ontario power grid primarily serves as a mechanism for moving electricity in a one-way direction from generators to consumers. A smart grid, on the other hand, is defined by the Independent Electricity System Operator as a "two-way system that monitors and automatically optimizes the operation of the interconnected elements of the power system – from the generator through the high-voltage network and distribution system, to end-use consumers and their thermostats, appliances and other household devices." By using advanced information-based technologies, smart grids have the capacity to increase grid efficiency, reliability and flexibility, with benefits for both consumers and the environment. *The Electricity Act, 1998* was amended to allow for the development of a smart grid in Ontario.



The technologies supporting a smart grid can both facilitate the amount of renewable energy fed onto the grid, as well as contribute to conservation efforts. Given that wind and solar both generate electricity on an intermittent basis, smart grid technologies will need to accommodate this variable generation in order to balance supply and demand. As the number and distribution of smaller generators (such as small scale solar and wind) increases, the operational challenges of incorporating increasingly diverse energy resources will also grow.

From a conservation perspective, the Ontario Smart Grid Forum believes that a smart grid can provide enhanced information to consumers that will allow them to "gain greater control over their electricity usage to lower costs, improve convenience and support growing environmental awareness." When combined with time-of-use pricing, the installation of smart meters (which provide consumers with timely information on price and consumption) is an initial key step towards realizing the full conservation potential of a province-wide smart grid.

Promoting Conservation and Efficiency

The GEGEA was also designed to promote conservation and energy efficiency initiatives across the province. The GEGEA, and the GEA in particular, contains several key provisions to foster a "culture of conservation". Various groups, such as homeowners, government operations and public agencies, are identified within the legislation and specific provisions exist to shift each towards lower overall energy use. Further implementation details will be developed through regulation and subject to EBR notice and comment procedures.

A provision targeted at homeowners relates to the sale and purchase of residential properties. In particular, the GEA grants purchasers the right to receive information from the seller regarding the energy consumption and efficiency of the property for sale. While it is mandatory for a seller to provide such disclosure prior to accepting an offer to purchase, the right to receive this information may be waived, in writing, by the purchaser. As of June 2010, this provision was not yet in force.

The GEA also targets public agencies by requiring that government ministries and municipalities, as well as other prescribed public agencies and consumers, prepare energy conservation and demand

management plans. Along with other requirements, public agencies may be required to achieve certain targets and meet energy and environmental standards, including standards for energy conservation and demand management. As of June 2010, regulations necessary to implement these provisions had not been passed; however, it is anticipated that universities, colleges, schools and hospitals, as well as large industrial and commercial energy consumers, will be subject to these provisions.

The GEGEA also repealed the *Energy Efficiency Act*, which governed energy efficiency standards for appliances and equipment, and replaced it with new provisions under the GEA, entitled *Energy Efficiency and Efficient Use of Water*. Energy efficiency standards for appliances and products can be established and restrictions can be placed on the sale of those items that do not meet the required standards. The inclusion of water efficiency standards is a new consideration that was not contained

within the *Energy Efficiency Act*. In April 2010, the Ministry of Energy and Infrastructure posted a proposal notice on the Environmental Registry to develop a minimum water efficiency standard for toilets. The proposed regulation would require that all toilets sold in the province use six litres of water or less per flush. A number of proposed new or revised energy efficiency standards were also posted at the same time.



The *Building Code Act*, 1992 was also amended: energy and water conservation are explicitly stated as central purposes of the Ontario Building Code with respect to construction and demolition. In addition, the Ministry of Municipal Affairs and Housing is now required to undertake a review of the Building Code, with a focus on energy conservation standards, within six months of the GEGEA coming into force and, at a minimum, every five years thereafter.

The current Ontario Building Code dates from 2006 and so the ECO anticipates that a new code will be released by the end of 2011. Finally, pursuant to other amendments, a Building Code Energy Advisory Council has been established to provide advice on how to enhance the Ontario Building Code to increase energy efficiency and promote green technologies.

Further key GEGEA amendments relating to conservation, as well as renewable energy, were made to the *Ontario Energy Board Act*, 1998. These amendments fundamentally change the mandate and role of the Ontario Energy Board (OEB). While the OEB must continue to protect consumer interests (on such issues as price and reliability) and promote economic efficiency, it is now required to consider three new objectives:

- to promote electricity conservation and demand management;
- to facilitate the implementation of a smart grid; and,
- to promote the use and generation of electricity from renewable energy sources.

Given that the OEB is a key decision-maker in the electricity system, the inclusion of these objectives is of central importance in moving the electricity system along the path envisioned within the GEGEA.

In order to determine the success of any conservation initiatives, it is important to both monitor and report on the progress made. In this regard, the GEGEA amended the *Environmental Bill of Rights*, 1993 to expand the Environmental Commissioner of Ontario's (ECO) reporting mandate. The ECO is

now required to prepare a separate report annually to the Speaker of the Assembly on the progress of activities in Ontario to reduce, or make more efficient, use of various forms of energy such as electricity, natural gas, propane, oil and transportation fuels.

To produce the energy report, the ECO has the power to require the preparation and submission of information from various actors within the energy field including the OEB, the OPA, the Independent Electricity System Operator (IESO), and the Smart Metering Entity (within the meaning of the *Electricity Act, 1998*). Electricity generators, transmitters or distributors, and gas producers, distributors, transmitters or storage companies also may be required to prepare and submit information to the ECO.

Along with reporting on energy conservation, the amended *EBR* also requires the ECO to provide a separate annual report on the progress of activities in Ontario to reduce greenhouse gas emissions.

ECO Comment

The ECO strongly supports the key objectives of the *GEGEA* and recognizes the urgent need to move away from fossil fuel-based electricity production. The ECO is somewhat concerned, therefore, with the apparent erosion of public goodwill that occurred during the legislative process. Moving the province away from the use of fossil fuels to generate electricity, and reducing the associated negative environmental impacts, are positive goals that garnered wide public support. In its efforts to begin rapid implementation of the *GEGEA*, and to achieve the hoped for economic stimulus and green industry development, the Ontario government pushed Bill 150 through the legislature at breakneck speed – rarely has proposed legislation of this scope received such rapid passage. This antagonized some stakeholder communities and has resulted in a strong and significant backlash that may undermine some of its positive elements. To address some of these concerns, the government should ensure that proponents truly engage with affected communities and municipalities and take local concerns into account when moving ahead with renewable energy projects.

While an increase in renewable energy production is no doubt important, the ECO urges that enhanced conservation measures be given top priority. After all, conserve is just a different word for reduce – the first in the 3Rs hierarchy of reduce, reuse and recycle. Accordingly, the ECO would suggest that all agencies involved in the Ontario electricity market, including the OEB, OPA and IESO, place conservation measures at the top of their respective agendas in carrying out their duties within the evolving electricity policy landscape.

The *GEGEA* has created an enormous opportunity for the future development of renewable energy. Accordingly, the ECO strongly urges the government not to set any targets, or caps, on conservation and renewable generation but rather ensure that future electricity plans leave open a wide window of opportunity for the continued growth and expansion of conservation and renewable electricity generation.

Under the *GEGEA*, the ECO has a new responsibility to monitor provincial progress on both greenhouse gas reductions and energy conservation. As such, the ECO will closely observe whether the anticipated environmental goals of the *GEGEA* are achieved. In fulfilling our mandate, the ECO will assess the efficacy of the expanded powers granted under the amended *Environmental Bill of Rights, 1993*.

The GEGEA signals a dramatic, and far-reaching, shift in provincial electricity policy. As of June 2010, many of the specific provisions have not been implemented. As the devil (or the angel, as the case may be) is usually hidden in the details, the weaknesses and strengths of the GEGEA will be revealed as the regulatory details are fleshed out. In the meantime, the ECO strongly supports both the vision and goals underpinning the legislation and views it as a bold and sincere attempt to recast energy policy in a positive direction.

For a more detailed review of this decision, please refer to Section 4.2 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

2.2 Ramping Up Renewables: MOE's Renewable Energy Approvals

In September 2009, the government put in place another key component of its strategy to shift electricity generation away from fossil fuels and toward renewables. To expedite the development of renewable energy generation facilities, the government proclaimed into force a new class of approvals for renewable energy projects under Part V.0.1 of the *Environmental Protection Act* (EPA). As well, O. Reg. 359/09 – Renewable Energy Approvals, made under the amended EPA came into force and established the new, streamlined process that must be followed in order to proceed with a renewable energy project.

The Renewable Energy Approvals Regulation ("REA Regulation") constitutes the cornerstone of the province's new approval process for facilities that generate electricity from renewable sources. The REA Regulation integrates all former MOE regulatory approval requirements into a single process which is based on a "one window, one permit" approach. In addition, the government has exempted most renewable energy projects that generate electricity from the requirements of the *Environmental Assessment Act* (EAA). As well, air and waste approvals under the EPA, along with permits to take water, well permits and sewage approvals under the *Ontario Water Resources Act*, are now combined in a single process and approval. Finally, through amendments made to the *Planning Act*, most planning approval requirements no longer apply to renewable energy projects. Collectively, these amendments constitute a fundamental change in the regulatory landscape for renewable energy electricity projects.

Based on the twin goals of stimulating the economy and improving the environment by reducing greenhouse gas emissions, the *Green Energy and Green Economy Act, 2009* (GEGEA) was passed and received Royal Assent on May 14, 2009. Along with other legislative amendments, the GEGEA enacted the *Green Energy Act, 2009* (GEA). For more information on the GEGEA, please see Part 2.1 of this Annual Report. Along with enhancing energy conservation, the preamble of the GEA states the government's commitment to "fostering the growth of renewable energy projects, which use cleaner sources of energy, and to removing barriers to and promoting opportunities for renewable energy projects..." To help achieve these objectives, the REA Regulation was developed to streamline the approvals process for renewable energy projects. Combined with the Feed-In Tariff program – which provides a financial incentive to develop renewable projects – the government hopes to affect a transformative shift away from fossil-fuel electricity generation and towards a greener energy path.

Prior to the REA Regulation coming into force, the process to gain the requisite approvals for a

renewable energy project was often complex, expensive and time-consuming. Two key provincial hurdles existed. For most electricity projects, proponents were required to undergo an environmental screening process under the EAA, as well as to obtain a certificate of approval under the EPA. Projects were also subject to sometimes onerous official plan amendments and/or zoning bylaw amendments as required by municipalities.

The REA Regulation outlines both the process that must be followed to obtain an REA Approval from the Ministry of the Environment (MOE), as well as requirements (including the setback distances) that apply to specific technologies. The Ministry of Natural Resources (MNR) has jurisdiction over some aspects of environmental management (e.g., the protection of species at risk). To co-ordinate provincial efforts and avoid duplication, MNR developed an Approval and Permitting Requirements Document for Renewable Energy Projects that outlines its information requirements for decision-making on approvals or permits that fall under MNR administered statutes. For more information, please see Part 2.3 of this Annual Report.



Overview of the Process

A brief overview of the REA process is provided below. For a more detailed description and review of the process, please refer to Section 4.11 of the Supplement to this Annual Report. MOE has also produced a plain language guide that provides a good overview of the approvals process.

Under the REA Regulation, renewable energy projects that use wind, bio-energy or solar are classified according to various criteria, including size and location. Depending upon their classification, some projects may be exempt from the regulation's requirements.

The REA Regulation covers projects that generate electricity from wind, bio-energy or solar. It does not apply to certain renewable energy technologies, such as geothermal heating or cooling or solar thermal water or space heating, as these do not generate electricity. Some projects are exempt due to their size or because they are subject to an alternative approval process. Examples include:

- wind facilities with a name plate capacity less than or equal to 3 kW (Class 1 wind)
- ground-mounted solar less than or equal to 10 kW (Class 1 solar)
- rooftop and wall mounted solar of any size (Class 2 solar)
- regulated mixed anaerobic digestion facilities or anaerobic digestion facilities processing non-regulated waste on farms (as these are regulated pursuant to the *Nutrient Management Act, 2002*)
- all waterpower facilities (these are assessed under Class or Individual Environmental Assessment processes)

To proceed with most projects, applicants must provide notification of both their intention to engage in the project, as well as the location and time of at least two public consultation meetings. Notice

of the first meeting must be provided at least 30 days in advance, published on two separate days in a local newspaper, posted on the applicant's website and given to landowners within 120 metres of the proposed project location.

At least 60 days before the final public consultation meeting the applicant must make available to the public all documents and reports related to the project. These documents must be posted on the applicant's website, and paper copies must also be made available for review.

For most REA approvals, applicants must submit several different reports. A core set of technical reports is required. As well, additional reports may be necessary depending upon the location, equipment or technology used.

All applicants (except the proponents of small wind projects) are also required to submit reports relating to possible impacts on natural features and water bodies located nearby the proposed site. Applicants must review public records, as well as conduct a site investigation, to determine the proximity of the proposed project to provincial parks, conservation reserves, natural features, or Areas of Natural and Scientific Interest. If the project is on Crown land (or private land where MNR permits are required), applicants must also assess the project's proximity to wildlife habitat for fish, birds and beavers, as well as species and habitats protected under the *Endangered Species Act, 2007 (ESA)*.

Once completed, the applicant must evaluate the significance or provincial significance of each feature using criteria established or accepted by MNR, and have MNR confirm the conclusions reached. Where there may be a potentially negative impact on any species or habitat protected under the ESA, the applicant will be required to describe the potential negative effects and the methods they propose to avoid or eliminate the effects. If there is no manner by which the effects can be avoided or eliminated (even after changes to the project have been considered), the applicant must apply for and be granted a permit from MNR in order to continue with the project.

Applications are submitted to MOE for review and, if deemed complete, an instrument proposal notice will be posted on the Environmental Registry for a minimum 30-day public review and comment period. After considering an application, MOE may issue, renew or amend an REA (with terms and conditions if deemed necessary), or refuse to issue, renew or amend, an REA.

If dissatisfied with the decision an applicant may request a hearing by the Environmental Review Tribunal (ERT) within 15 days of the decision. Pursuant to GEGEA amendments, a third-party right to appeal now exists under the EPA. This is a new right. Any person within Ontario may, within 15 days of an REA decision notice being posted on the Environmental Registry, request a hearing before the ERT. There is a hurdle, however. In order to succeed at the hearing, the appellant must demonstrate that the project will cause "serious harm to human health, or serious and irreversible harm to plant life, animal life or the natural environment." If the ERT determines that the project will cause the alleged harm, it has the power to either revoke or alter the decision, or order MOE to take further action.

Requirements Relating to Specific Technologies

The REA Regulation establishes a classification for each type of renewable energy generation facility. The requirements relating to each technology, including whether an REA is necessary and the setback distances for noise, property lines, roads and railways, are determined according to the classification given to each individual project.

Wind

Five wind facility classes exist based on a project's electrical power output (kW or MW) and turbine sound power level ("loudness"). Very small wind power projects (3 kW and under) do not require an REA, whereas an REA is required for any project over this size. Larger wind projects may or may not be subject to a 550 metre noise setback from the nearest receptor (i.e., residence) depending on their loudness. Where there are multiple turbines, the required distances are greater, but these can be reduced where ambient noise levels are below a certain threshold.

Solar

The REA Regulation establishes three solar facility classes based on a project's electrical power output and location. Small facilities (10 kW and under) and those that are roof or wall mounted (of any size) do not require an REA. Ground mounted solar projects over 10 kW (which would provide sufficient power for 5 to 10 mid-sized homes) require an approval.

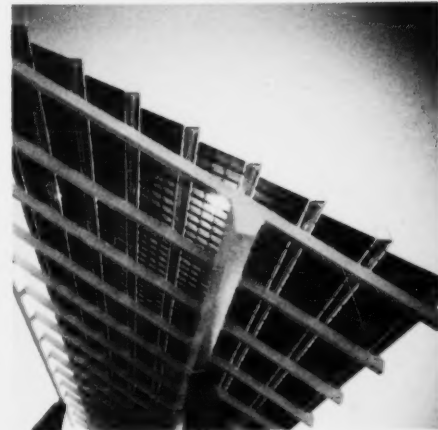
Anaerobic digestion facilities

Anaerobic digestion refers to the process whereby bacteria converts organic matter into methane gas which is then burned to generate electricity. Three anaerobic digestion facility classes are established based on the location and size of the facility, as well as the feedstock material (biomass, farm material, or source separated organics) being used. An REA is required for each class of facility, but the applicability of some requirements (including certain public consultation provisions and the reports required) will depend upon the class of facility being considered. In general, the requirements are less stringent when the facility is farm-based.



Thermal treatment facilities

Thermal treatment refers to the burning of wood or other solid organic material. Three categories exist depending on the location and size of the facility, as well as the feedstock (wood waste or other biomass) material being used. An REA is required for each of these three classes, but the applicability of some requirements (including certain public consultation provisions and the reports required) will depend upon the class of facility being considered. In general, the requirements are less stringent when the facility is farm-based. Similar to anaerobic facilities, a 250 metre setback distance is required from any building used by humans, but may be reduced for farm-based operations.



Setback Requirements for Natural Features and Water

The REA Regulation also establishes a number of setback distances for renewable energy projects from natural features and water bodies (such as lakes, streams and springs). In general, the minimum setback distance for water bodies or natural features identified as significant or provincially significant is 120 metres. In many instances, however, projects may be constructed within the 120-metre limit if an Environmental Impact Study Report outlines measures that will be taken to mitigate any negative environmental effects.

Renewable energy projects are not permitted within southern or coastal wetlands that are designated as provincially significant. As well, such projects are not permitted within provincial parks or conservation reserves except in limited situations. For example, a project may be allowed if it is generating electricity for a community that is not connected to the grid or where the electricity is to be used by facilities within the park or conservation reserve as defined under the *Provincial Parks and Conservation Reserves Act, 2006*.

Provincial Policy Plan Areas

Where a project is proposed within an area covered by a provincial policy plan (such as the Oak Ridges Moraine Conservation Plan, the Greenbelt Plan or the Lake Simcoe Protection Plan), extra requirements exist regarding natural heritage and/or water protection. In general, these additional requirements relate to the applicable setbacks, which can be reduced if an Environmental Impact Study Report is prepared and confirmed. Where a project is proposed for the area covered by the Niagara Escarpment Plan and a development permit is required under the *Niagara Escarpment Planning and Development Act*, such permit must be obtained prior to submitting the REA application. Accordingly, any proposal to develop a renewable energy project on the Niagara Escarpment must first be presented and approved by the Niagara Escarpment Commission.

ECO Comment

The REA Regulation represents a dramatic shift in how MOE processes and issues approvals for renewable energy projects. The ECO applauds the efforts of MOE and MNR to move the province away from fossil-fuel electricity generation and to facilitate the development of more environmentally benign sources of energy. This shift is a key step towards meeting the province's climate change targets, as well as improving overall air quality. These efforts must be balanced, however, with the equally valid goals of protecting Ontario's wildlife and natural environment. The success of this balancing act cannot yet be determined and depends in large part on how the REA Regulation is interpreted and applied. Some cautions are in order.

Neither the REA Regulation nor the plain language guide specifically state that cumulative impacts must be assessed; the absence of specific direction in this regard is disappointing. REAs are prescribed instruments, however, and the Divisional Court of Ontario ruled in June 2008 that all ministries, including MOE, are required to consider their Statement of Environmental Values (SEV) when making instrument decisions. MOE's SEV states that the ministry considers cumulative effects on the environment, along with the interdependence of air, land, water and living organisms in its decision-making process. Accordingly, the ECO anticipates that MOE will give full and due consideration to cumulative effects when rendering decisions on renewable energy projects.

The ECO agrees with the relatively narrow and stringent test that has been established for third-party appeals. By limiting appeals to serious harm to human health, or serious and irreversible harm to the environment, it is apparent that the ERT will not be able to consider aesthetic considerations (such as the protection of views) and impacts on property values. Very few cases will likely meet the established threshold for appeal. In the ECO's opinion, a stringent test is needed to help facilitate the development of renewable energy in the province.

The ECO is somewhat concerned, however, with the short period of time that is afforded third parties under the EPA to request a hearing before the ERT. The issue of a 15-day time period was raised in an application for review that was made to MOE. For more information, please see Part 7.4 of this Annual Report. While that application focused on the leave to appeal provisions of the EBR, the principles that it raises, and the concerns that the ECO expressed, are equally valid with regard to the short time frame provided for REA third-party appeals.

Finally, although the new applications process has been streamlined, the ECO believes that it places a sufficiently high burden on project proponents to be thorough and transparent throughout the application process. Proponents will be required to expend a significant amount of upfront effort in public, municipal and Aboriginal consultations, along with the preparation of site-specific studies and required documentation. A key component of such transparency will be granting the public and local municipalities adequate opportunities – early and throughout the process – to view and comment on all relevant reports, as well as the final application. It is only in this manner that the local public is able to provide informed comments and gain a better understanding of what is being proposed. The ECO urges MOE to be vigilant in ensuring that project proponents provide sufficient opportunity and transparency to allow for meaningful engagement and input. If meaningful engagement of local communities is thwarted, it may result in the intensification, rather than the resolution, of social conflict.

Overall, the ECO feels that the approvals process outlined in the REA Regulation strikes a fair balance between the desirable goal of expediting the production of renewable energy in the province and the equally important objective of protecting our natural environment. Ultimately, time alone will reveal whether or not an appropriate balance has been struck. The ECO will monitor the implementation of the REA Regulation, along with the approvals process, with a view to ensuring that each of these objectives are ultimately achieved.

For a more detailed review of this decision, please refer to Section 4.11 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

2.3 MNR Approvals for Greening the Grid

In September 2009, the Ministry of Natural Resources (MNR) published a document that outlines its requirements for approving renewable energy projects. The Approval and Permitting Requirements Document for Renewable Energy Projects ("Requirements Document") was released the same day that O. Reg. 359/09, the Ministry of the Environment's (MOE's) Renewable Energy Approval (REA) Regulation under the *Environmental Protection Act*, came into force. These initiatives constitute two of the major components involved in implementing the green energy vision embodied by the *Green Energy and Green Economy Act, 2009*.

MNR is responsible for managing Ontario's fisheries, wildlife, aggregate resources, provincial parks and Crown lands. Accordingly, MNR issues various permits, licences, authorizations and approvals for activities on Crown and private lands. Renewable energy projects may require MNR-issued permits pursuant to various statutes, including the *Public Lands Act*, the *Endangered Species Act, 2007*, the *Fish and Wildlife Conservation Act, 1997*, the *Provincial Parks and Conservation Reserves Act, 2006*, and the *Conservation Authorities Act*.

The goal of the Requirements Document is to provide clarity and guidance as to which activities must be undertaken, and what information is required, for MNR to grant permission for a renewable energy testing or generating facility on Crown or private land. The document emphasizes that other regulatory bodies, such as conservation authorities, municipalities or federal agencies, may have specific requirements that must also be considered.

Once an applicant has met all the requirements outlined in the REA Regulation and the Requirements Document, they may submit a complete application to the government for review.

Renewable Energy Testing Projects Proposed on Crown Land

In order to determine the viability of a particular location, project developers may need to undertake testing activities (such as measuring wind speed, for example). While an REA from MOE is not required to conduct tests, several MNR requirements exist. Where construction is required to gain access to the proposed testing site, the requirements are similar to those that would be imposed by MOE for a renewable energy project. There may also be additional location or project-specific approvals required depending, for example, if the testing is to be done in a provincial park, a conservation reserve, or in the Far North. For testing projects that do not require construction to gain access, the obligations are less onerous due to the reduced potential impact on the environment.

Renewable Energy Projects

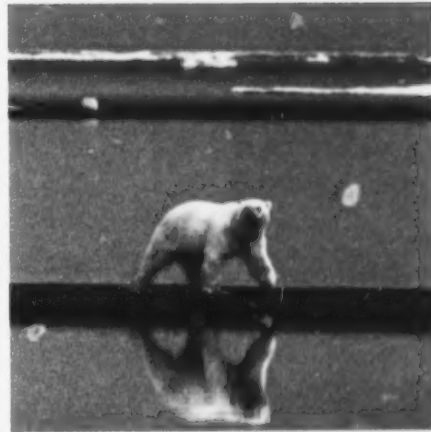
For renewable energy projects, most of the requirements are set forth in the REA Regulation. In addition, several MNR requirements relate to the natural environment. These are summarized below.

Site Investigation Report

Under the REA Regulation, proponents are required to assess the natural heritage features (air, land and water) within 120 metres of a proposed project. While the regulation requires the proponent to provide general information about nearby natural features, MNR requires additional information regarding: fish and fish habitat; rare vegetation; protected species and habitat; wildlife and their habitat; mineral aggregate resources; petroleum resources; Crown forest resources and hazard lands (i.e., lands that are subject to natural hazards, such as flooding). Various MNR permits and approvals may be required based on the information submitted.

Endangered Species Act, 2007 Requirements

Where a species or habitat that is protected under the *Endangered Species Act, 2007 (ESA)* is present in the proposed project area, a proponent must assess the potential impacts of all aspects (construction, operation, decommissioning) of the project on the species or habitat. If the proponent determines that the project will not have a negative impact, they must provide sufficient documentation to support that conclusion. Where, however, there are potential negative impacts that are prohibited by the ESA, the proponent must determine whether the project can be modified, and "all reasonable alternatives to the proposed activity must be considered, including alternatives that would not negatively affect the species." If no modification can be made to avoid the negative impacts, authorization from MNR under the ESA will be required.



Fish and Wildlife Authorizations

Under the *Fish and Wildlife Conservation Act, 1997*, authorization must be obtained from MNR if the construction or operation of a project will destroy bird nests or eggs, beaver dams, black bear dens or interfere with black bears in their dens.

Additional Location or Project-specific Requirements

Similar to the requirements for a testing project, there may be additional location-specific approvals required. For example, if a proponent is proposing to construct a project in a natural hazard land, permission from the local conservation authority may be required. For off-shore wind facilities, the REA Regulation requirements are supplemented by further MNR requirements relating to fisheries, shipping channels, and coastline erosion. Finally, facilities proposed for provincial parks or conservation areas may be constructed under defined circumstances.

Projects that do not Require an REA

Small-scale solar and wind facilities do not require an REA. If such a project also does not require the disposition of Crown land, very few requirements apply. The only requirement is where the project has the potential to negatively affect protected species or habitat. In this case, an assessment must be conducted to determine whether the ESA requirements outlined above apply. Where a disposition of Crown land is required, a project proponent must file a project description, a site plan, a decommissioning plan and documentation of any relevant Aboriginal consultation. As well, an assessment must be conducted under the ESA.

ECO Comment

In general, the ECO supports the increased development of renewable energy projects and anticipates that these will play an important role in both moving the province's energy mix away from fossil fuels and helping to build a more resilient energy infrastructure. Accordingly, the ECO supports MNR's efforts to consolidate its requirements into one guidance document; this will help to clarify the ministry's requirements for project developers and, it is hoped, help to streamline the overall approvals process.

A specific concern, however, relates to EBR rights and transparency regarding some approvals that may be granted by MNR for renewable energy projects. A proposal for a renewable energy approval is a classified instrument for the purposes of the EBR. Accordingly, all applications for renewable energy approvals will be posted by MOE as proposal notices on the Environmental Registry for public notice and comment. Unfortunately, certain other required permits and approvals issued by MNR, which may or may not form a mandatory part of a complete submission for an REA, are not required to be posted on the Environmental Registry. In order to ensure the success and future viability of renewable energy projects, all efforts must be made to keep the public fully informed of proposed developments.

For a more detailed review of this decision, please refer to Section 4.21 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

2.4 Mandatory GHG Reporting: What Gets Measured Gets Managed

As a precursor to establishing market-based mechanisms to regulate greenhouse gas (GHG) emissions it is important to know the origin of these GHGs, which industries and companies are producing them, and how much is contributed by the various market sectors. Following the maxim "what gets measured gets managed," the Ontario government has established a new regulation that will provide the much-needed baseline information on GHG emissions.

In December 2009, the Ministry of the Environment (MOE) filed O. Reg. 452/09 - the Greenhouse Gas Emissions Reporting Regulation, under the *Environmental Protection Act* (EPA). The regulation was accompanied by a technical guideline regarding mandatory GHG reporting requirements and was posted as a proposal on the Environmental Registry for comment in October 2009. The regulation took effect on January 1, 2010.

Ontario Regulation 452/09 requires companies in the petroleum, electricity production, and selected manufacturing sectors that emit over 25,000 tonnes of GHG emissions per year to begin reporting these emissions starting with 2010 emissions. Six types of greenhouse gases are covered: carbon dioxide, methane, nitrous oxide, sulphur hexafluoride, hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs).

The regulation contains the following provisions and features:

- All companies exceeding the 25,000 tonne minimum threshold must report specific GHG data.

- For the first reporting year, companies have the option of using the best alternative quantification method for their 2010 GHG emissions.
- Starting with the 2011 reporting year, companies must use the identified standard quantification methods to quantify their GHG emissions.
- The annual reporting of GHG emissions is due by June 1 of each year covering the previous calendar year (i.e., the 2010 GHG Report is due by June 1, 2011).
- The third-party Verification Report of emissions is due by September 1 of each year covering the previous calendar year, starting with a 2011 GHG Verification Report (which will be due by September 1, 2012).

While the regulation only covers companies with GHG emissions in excess of 25,000 tonnes per year, companies with GHG emissions between 10,000 and 25,000 tonnes per year are encouraged to voluntarily report. This is in anticipation of emerging continental reporting requirements that may eventually cover these other emitters. MOE noted that linkage and harmonization with broader continental developments in emissions reporting and emissions trading requirements is important in order to avoid a patchwork of reporting, verification and trading regimes.

To ensure the province is on the same page with developments elsewhere in North America, Ontario joined the Western Climate Initiative (WCI) in July 2008. The WCI is a collaboration of certain U.S. states and Canadian provinces working towards a common framework for the reporting of GHGs and the design and implementation of a cap-and-trade system.

In addition to reporting on the quantities of GHGs released each year, companies will be required to retain third parties to verify the accuracy of their GHG Reports in accordance with International Standards Organization (ISO) 14064 and 14065 requirements. ISO 14064 provides general guidance to those validating and/or verifying GHG claims made by emitting facilities and specifies the requirements emitting facilities must follow for selecting GHG validators/verifiers. ISO 14065 specifies the qualification and accreditation principles and requirements for those bodies that validate or verify GHG assertions.

While the first verification report, covering 2011 emissions, is not due until September 1, 2012, MOE is encouraging all regulated sources to voluntarily undertake third-party verification in the first year (covering 2010 emissions) by September 1, 2011. As noted by MOE, the intent is to allow time to build capacity for third-party verification – capacity that is only in the early stages of development in Ontario.

Implications of the Decision

Mandatory reporting of GHGs by large emitters is a necessary first step in the development of a cap-and-trade (or tradable permit) system and will facilitate the buying and selling of emission rights under a future tradable permit system. The reporting of GHG emissions, however, is not new to most large industrial companies in Ontario. Since 2004, companies with annual GHG emissions of 100,000 tonnes carbon dioxide equivalent (CO₂e) or more have been required to report these emissions to Environment Canada's (EC's) GHG Reporting Program. For the 2009 reporting year, the threshold for reporting GHG emissions to EC was reduced to 50,000 tonnes.

MOE expects that O. Reg. 452/09 will enable Ontario companies to link with other GHG trading systems under development elsewhere in North America, thus creating a single, integrated North

American carbon market. (See Part 2.5 of this Annual Report for a discussion of amendments to the EPA that enable GHG emissions trading.)

It is expected that the requirements for both an annual GHG Report and a GHG Verification Report will result in additional costs to industry. However, MOE's position is that the verification requirements will ensure the submission of credible emissions data and this data will provide the solid foundation for any future emission trading system. A considerable number of regulatory provisions are devoted to ensuring that impartiality is not compromised. This should maintain a reasonable level of assurance that there has been no material misstatement or discrepancy in a GHG Report. This appears to be in recognition that the skill sets required to audit and prepare a GHG Report on a facility's emissions are in essence the same skill sets that a qualified third-party verifier would use to prepare a GHG Verification Report.

ECO Comment

The ECO supports mandatory and public reporting of GHGs by industrial emitters. The ECO commends MOE for a detailed and well-executed consultation process targeting industry and related stakeholders. MOE's commitment to continued industry training and education on O. Reg. 452/09 is also welcomed.

However, the ECO does have concerns, echoed by industry stakeholders, regarding the ability of the fledgling monitoring, reporting and verification (MRV) industry to develop the capacity to meet the anticipated rapid growth in demand for MRV services. MOE indicates it will be monitoring developments around third-party verification in the emerging U.S. cap-and-trade system "to ensure Ontario requirements are comparable to those in the U.S. where feasible." While this is welcomed, MOE has yet to adequately address the capacity issue raised by industry or the potential for conflicts of interest between service providers as both validators and verifiers of the same company's emissions.

MOE has correctly positioned O. Reg. 452/09 as a necessary precursor to the introduction of a cap-and-trade system in Ontario. Anticipating that a North American-wide tradable permit system will be implemented sometime in the future, MOE has stressed repeatedly the need to link and harmonize with similar trading systems being contemplated in other provincial, state, national and international contexts.

As of June 2010, however, it seems doubtful that the approval and implementation of a U.S. congressionally sanctioned cap-and-trade system will happen anytime soon. Moreover, while the WCI is still intent on a January 2012 launch for its tradable permit system, it now appears that it will do so with fewer participating states. These developments reinforce concerns raised in the ECO's 2008/2009 Annual Greenhouse Gas Progress Report regarding the Ontario government's heavy reliance on a future cap-and-trade regime to deliver on its 2020 GHG reduction targets "where key decisions about a future trading regime are largely in the hands of other jurisdictions."

While O. Reg. 452/09 is a necessary precursor to the establishment of a cap-and-trade system in Ontario, it could be argued that this goal is secondary to another equally important policy objective. The development of future carbon trading systems notwithstanding, the ECO sees considerable merit in having accurate and reliable GHG emissions data available to establish fair and transparent baseline emissions levels for various Ontario industries. With these in place, the province will have the basis for making regulations to reduce greenhouse gas emissions "without being limited to emissions trading" to enhance its ability to protect the environment.

For a more detailed review of this decision, please refer to Section 4.14 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

2.5 Pricing Carbon: Can a Cap-and-Trade System Deliver the Tonnes?

There is a clear causal connection between rising global temperatures and the release of greenhouse gases (GHG) during the combustion of fossil fuels. With each passing day, it becomes more urgent that we reduce GHGs before we reach an environmentally catastrophic tipping point. Governments are looking for ways to use market mechanisms as one way to put a price on carbon emissions and encourage industrial emitters to reduce their GHG emissions. One of these mechanisms is a cap-and-trade system.

In December 2009, Bill 185, the *Environmental Protection Amendment Act (Greenhouse Gas Emissions Trading)*, 2009 (EPAA) was passed by the Ontario Legislature and received Royal Assent. The EPAA amends the *Environmental Protection Act (EPA)* to allow Cabinet to make regulations establishing measures for the use of economic and financial instruments and market-based approaches. The purpose of these instruments and approaches is to maintain or improve environmental standards, protect the environment and achieve environmental quality goals in a cost-effective manner. The EPAA specifies that such market-based approaches could include – but are not limited to – emissions trading. This caveat is significant as it keeps the government's options open to consider other ways to price carbon, such as a carbon tax or levy.



The EPAA is designed to set a firm foundation for the development of a cap-and-trade system in Ontario. It is supported by a new O. Reg. 452/09 - Greenhouse Gas Emissions Reporting Regulation, under the EPA, and an accompanying technical guideline (see Part 2.4 of this Annual Report). Although the Ontario government has had the authority since 2001 (under the EPA) to regulate a cap-and-trade system for nitrogen and sulphur dioxide emissions, the EPAA expands the government's ability to make market-based regulations involving GHGs. The EPAA gives the government the power to make regulations prescribing: those persons and facilities to which a cap-and-trade system will apply; how the emission allowances (or "permits") will be created, distributed or allocated; and how these instruments can be used, traded, reported, verified and/or retired.

Once the relevant provisions of the EPAA are proclaimed, a separate account in the Consolidated Revenue Fund – the Greenhouse Gas Reduction Fund (GGRF) – will be created to hold money collected from the distribution of financial instruments related to GHG reductions. Money in this fund may be used to cover the costs of administering the economic or financial incentives or to support GHG reduction initiatives.

A cap-and-trade system in isolation cannot reduce overall emissions unless the cap is periodically ratcheted down. However, cap-and-trade can establish an incentive for industry to reduce emissions

well below the regulated cap – to over-comply – in exchange for the right to sell excess permits to others who may need them for compliance purposes. Proponents of tradable permit systems stress that greater emission reductions occur under a cap-and-trade system than under conventional command-and-control regulations because, under the latter, no one is overtly rewarded for over-compliance. However, tradable permit systems do not replace regulation: they work best when they are supported by strong regulatory frameworks.

A cap-and-trade regime is being positioned by the province as a key element in its Climate Change Action Plan, designed to help Ontario meet its 2020 target to reduce GHG emissions by 15 per cent below 1990 levels. In recognition of the economic linkages between Ontario and the rest of North America, the amendment also sets the administrative foundation for the trading of allowances across jurisdictions. This reflects the province's desire to ensure that the eventual design of its cap-and-trade system can be harmonized with other North American systems currently under development. To ensure the province is on the same page and working in tandem with cap-and-trade developments elsewhere in North America, in July 2008 Ontario joined the Western Climate Initiative (WCI), a collaboration of U.S. states and Canadian provinces working towards a common framework for the design and implementation of a tradable permit system.

The Ontario government has yet to confirm the specific design elements of its cap-and-trade system. Although details are proposed in the Ministry of the Environment's (MOE's) discussion paper "Moving Forward: A Greenhouse Gas Cap-and-Trade System for Ontario," a decision on this policy proposal is not expected until the fall of 2010, at the earliest.

Public Participation & EBR Process

In addition to an Environmental Registry proposal notice, the government held a day of public hearings on Bill 185 before the Standing Committee on General Government.

The majority of commenters stressed the need to ensure that the design, operation and administration of any cap-and-trade system consider that the Ontario economy is closely linked with the North American and global economies. Commenters disagreed on how emission permits/allowances should be distributed and one energy company expressed concern about the potential impact of market speculation on carbon price volatility.

Several commenters voiced a preference for a carbon tax instead of a cap-and-trade regime, noting concerns about the administrative costs and complexities of designing, operating, adjudicating and enforcing a tradable permit system. They noted that a carbon tax provides a "stable, predictable cost of carbon" and that "having predictable emission prices makes it easier for emitters to make decisions about... investments to reduce emissions."

ECO Comment

The challenge for the Ontario government is to ensure sufficient harmonization between its domestic GHG trading regime and the respective regulations of other WCI members. As is permitted under the broad design parameters of the WCI, Ontario plans to seek the middle ground on the allocation of allowances and the use of offsets. Still-to-be-proclaimed provisions in the EPAA would give the province discretion to decide the percentage of allowances to be auctioned and the role of offsets

as a compliance mechanism to address competitiveness issues. The ECO will carefully monitor how the province exercises this discretion once MOE has posted its decision on the design of its proposed cap-and-trade system.

The ECO notes that a provision in the WCI's design recommendations provides for the WCI to intervene to "address... competitiveness issues" between WCI partner jurisdictions regarding the distribution of allowances if it is determined that a member jurisdiction is favourably considering local industry. It remains to be seen if Ontario will actually cede sovereignty over such a crucial provincial policy issue. This reluctance to cede sovereignty may apply equally to other WCI partners and calls into question the ultimate viability of the WCI as a suitable platform for trading.

The ECO is sensitive to commenters' concerns about the potential for Ontario industry to be placed at a competitive disadvantage. These concerns relate primarily to the regulation's treatment of the cost of carbon and how this will affect the province's trade position in North America and the rest of the world. Addressing this issue is not an easy task, given the lack of climate change policy direction at the Canadian federal level and the uncertainty surrounding the climate change agenda in the U.S. Congress.

The ECO notes that one of the key objectives of Ontario's Climate Change Action Plan, in addition to reducing GHG emissions, is to "support the transition to a low-carbon economy." The ECO describes in Part 2.1 of this Annual Report the important role that the *Green Energy and Green Economy Act, 2009* (GEGEA) will have in accelerating this transition. If implemented wisely, the GEGEA may be the game-changer Ontario needs to achieve more aggressive GHG reduction targets, either through a tradable permit system or by other means.

The province expects a cap-and-trade system to play a key role in helping to achieve its GHG reduction target by the year 2020. In our 2008/2009 Annual Greenhouse Gas Progress Report, the ECO noted considerable risk in the medium-term (to 2020) associated with the government's positioning on the potential GHG reductions "that may be delivered by a cap-and-trade system." While the province has been reluctant to even suggest a range of potential GHG reductions that could be delivered by a tradable permit system, the ECO is pleased that the Climate Change Secretariat has developed a range of GHG reductions that could be delivered by a cap-and-trade system by the year 2020. The ECO looks forward to reviewing these projections to assess their likely contribution to the province achieving its 2020 GHG reduction target.

The ECO will pay close attention to how still-to-be proclaimed provisions of the EPAA are implemented. In particular, we are concerned about the rules and regulations that may apply to how funds from the proposed GGRF are disbursed. Because the Ministry of Finance (MOF) will play a key role in the oversight of this fund, and because the oversight and disposition of funds from the GGRF may result in significant environmental effects, the ECO reiterates our request that MOF be re-instated as a prescribed ministry under the EBR (see pages 200-202 of the Supplement to the ECO's 2003/2004 Annual Report).



Photo: C. Wilkinson

The foundation of any trading system is the monitoring and reporting protocols employed to validate and verify the reductions claimed. The ECO strongly supports the enactment of O. Reg. 452/09 and the approval of its accompanying guideline. These will be indispensable in both setting historical benchmarks and in establishing fair but meaningful emission caps for sectors of the economy.

Finally, the ECO welcomes anticipated synergies between initiatives to reduce GHG emissions and measures that support the transition to a low-carbon economy. These synergies are particularly well demonstrated in the relationship noted between the EPAA and the GEGEA. As noted in the ECO's 2008/2009 Annual GHG Progress Report, there is a strong ecological imperative to pursue more aggressive GHG emission reductions in the face of mounting evidence that we are fast approaching an environmental tipping point.

For a more detailed review of this decision, please refer to Section 4.9 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.



Part Three
Conserving Our Biodiversity

Redefining conservation may be especially relevant in 2010 – the International Year of Biodiversity. As world leaders meet to discuss the future of biodiversity this fall, Ontario needs to listen closely. Ontario is home to tens of thousands of species and vast areas of forests, tundra, and freshwater. Yet the provincial government has been unsuccessful at halting biodiversity loss within Ontario's borders.

Conserving biodiversity requires the proactive protection and recovery of at-risk species and spaces. In this part of the Annual Report, the ECO examines Ontario's progress on implementing the *Endangered Species Act, 2007*. Habitat loss continues to be the greatest threat to species at risk in the province. Parks and protected areas can provide for preemptive habitat protection. New guidance for managing Ontario's parks emphasizes the importance of their ecological integrity, but without the necessary legal weight, these guidelines may not produce the desired results. This year, nine species at risk were the first to have their habitat regulated under the new ESA – but are these protections sufficient?

Traditionally, the Ministry of Natural Resources (MNR) has managed game wildlife on a species-by-species basis, with the goal of ensuring continued harvest. Redefining wildlife conservation, with an integrative ecological approach, considers wider ecosystem goals and the valuable roles of species outside their use to humans. Policies examined by the ECO in this part suggest that Ontario is moving in this new direction: for example, by managing cervids (e.g., moose, elk and deer) collectively on the landscape level rather than individually by species; and by managing black bears by zones based on ecology rather than by human boundaries. Despite these conceptual changes, has the ministry gone far enough to align new wildlife management frameworks with ecologically sound conservation practices?

Forestry practices in the Stand and Site Guide, discussed in this part, aim to provide for wildlife habitat – but are not yet backed up by long-term research to support their effectiveness in this regard. As we lose forested habitat in some areas, will renewed efforts in afforestation conserve the diversity of forest ecosystems in the province and restore southern Ontario's forests?

Ontario's ecosystems will change radically with climatic shifts in the coming years. Innovative approaches will be necessary on the part of many government ministries to ensure policy design takes climate change and ecological uncertainty into account.

3.1 Climate Change and Biodiversity Turmoil

Climate change will have enormous impacts on Ontario's natural environment. Increased air and water temperatures, along with changes to rain and snow patterns, will reshape the ecology of the province. Some native plants and animals will be able to move with or adapt to these changing conditions, others will not. The ranges of other species – not previously found in Ontario – will expand into our province. These changes to Ontario's ecology will have profound repercussions on our communities and economy.

Climate change adds to the other pressures that already imperil Ontario's biodiversity. Habitat loss and fragmentation, harvesting and overexploitation, pollution, and invasive alien species threaten many of our province's native species and ecosystems. These stressors can have a cumulative effect that accelerates pressures on the province's plants and animals. Across the planet, it is estimated that 20 to 30 per cent of species will be at increased risk of extinction if increases in global average warming exceed 1.5 to 2.5°C.

Increases of average winter temperatures up to 7°C for parts of northern Ontario by the year 2050, as well as increases in winter precipitation up to 39 per cent with more of it falling as rain, are projected.

In southern Ontario, projections forecast average summer temperature increases of 2.6°C, but with no real corresponding change in precipitation. These projections are based on "middle of the road" assumptions using moderate greenhouse gas (GHG) emission scenarios. Additionally, it is predicted that there will be a higher number of and more intense extreme weather events, such as droughts, heat waves, severe rainstorms, tornadoes and windstorms each year across Ontario.

Ontario is divided into 14 ecoregions – areas that are distinguished by their geology and climate (i.e., temperature, precipitation, humidity). These ecoregions are used to understand and manage the different parts of our province, through wildlife management programs or the management of protected areas. Ontario will undergo enormous ecological changes in the 21st century as these boundaries will shift dramatically because of climate change.

The climatic conditions of most of southern Ontario (ecoregion 6E) will move more than 500 km north, and will be restricted to the area around Marathon by the last few decades of the 21st century. However, just because southern Ontario's climate shifts northwards does not mean that all its plants and animals will be capable of moving along with it. Many species will not be able to migrate quickly enough to follow changing climate patterns. Additionally, natural barriers (like the Great Lakes) and human barriers (like highways and cities) will impede or prevent many species from following our province's changing climate. Moreover, the movement of species also may be restricted by different geologic and soil conditions. As a result, there will be dramatic changes in which species live where in Ontario.



Figure 1. Projected shift of southern Ontario's climate (1971-2000) to northern Ontario (2071-2100). The climatic conditions in the current ecoregion 6E, indicated by the brown boundary line, will be present only in the area around Marathon, Ontario on the north shore of Lake Superior by the end of the 21st century. Source: Ontario Forest Research Institute, Ministry of Natural Resources (2010).

Ontario's Ecology Will Be Radically Reshaped by Climate Change

Species that inhabit the northern part of Ontario will be among the most visibly affected by climate change. In effect, some of these species will "be pushed off the planet" as there is nowhere left for them to go. As a result, some species may soon become extirpated from Ontario. For example, our province is home to the southernmost population of polar bears (*Ursus maritimus*) in the world – a species that is widely recognized as suffering the most immediate impacts of climate change. There is a high probability that Ontario's population of 900-1000 polar bears will be gone from the province within 45 years due to decreases in sea ice in Hudson Bay, which constitute an integral part of their habitat.

Many of our province's other sub-arctic and arctic species will be imperilled because of rises in temperature, changes in snow conditions, and decreases in sea ice. Ontario's beluga whales (*Delphinapterus leucas*), arctic foxes (*Alopex lagopus*), and ringed seals (*Pusa hispida*) have all been identified as facing serious risks from climate change.

Climate change will also have an impact on more southerly species, like Ontario's black bear (*Ursus americanus*) populations. Such species may not disappear because of climate change, but their range, behaviour and interactions with other species will likely change. The limits of black bear distribution will likely move northward due to warmer climates. Because species with restricted habitat ranges will have the most problems dealing with climate change, black bear populations with fragmented habitats may be most affected. Another concern is that warmer temperatures could cause the early emergence of bears from hibernation – potentially causing a "mismatch" in the availability of food for bears. As well, climate change will alter precipitation patterns, decreasing food availability for black bears due to berry crop failures.

Species that were historically not adapted to Ontario's climate already are shifting northwards into the province from the United States. For example, warmer temperatures create a more hospitable environment for black-legged ticks (*Ixodes scapularis*), also known as deer ticks. They carry bacteria which causes Lyme disease in humans – an infectious disease that once was almost non-existent in Ontario. The range of these ticks will expand to encompass all of southern Ontario by the 2020s, possibly reaching James Bay by the 2080s.

The Virginia opossum (*Didelphis virginiana*), native to the southern United States, can already be found in Ontario due to milder winter temperatures in recent years. Additionally, some migratory species will expand their range in Ontario, like the eastern bluebird (*Sialia sialis*) which is predicted to begin over-wintering in southern Ontario rather than flying south. However, the populations of other migratory birds are expected to decline because of climate change due to the mismatch of their food requirements and food availability. Other species will be displaced; the familiar black-capped chickadee (*Poecile atricapillus*) will have much of its range taken over by the Carolina chickadee (*Poecile carolinensis*) due to warmer temperatures.

Warmer temperatures will also contribute to the range expansion of white-tailed deer (*Odocoileus virginianus*), already perceived to be hyper-abundant in southern Ontario because of land-clearing and the lack of natural predators. However, higher temperatures also are expected to lead to higher mortality of moose (*Alces alces*) in northern Ontario from hypothermia, as freezing rain events are projected to increase by 85 per cent in this part of the province. Other effects on moose likely will include increased heat stress causing range contraction, greater nutritional stress causing lower calf production, and higher occurrences of winter tick infestations leading to mortality. Climate change

also will affect woodland caribou (*Rangifer tarandus caribou*) in numerous ways, including greater disturbances to their habitat based on increased forest fires and higher fire intensities.

These swings in the population and range of one species can have a ripple effect on others. For example, predator and prey species are so closely interdependent that each side of this dynamic can drive changes in the population and range of the other. As result, these shifts in cervid populations (of white-tailed deer, moose, woodland caribou and American elk) caused by climate change will have effects on species such as grey wolves (*Canis lupus*) and eastern wolves (*Canis lycaon*). For example, increased snowfall in northern Ontario could lead to higher predation rates on cervids.

Put another way, climate change will have a domino effect on the province's ecological systems. In general, climate change will affect the number and intensity of pests, invasive alien species, and diseases. For example, species like gypsy moths (*Lymantria dispar*) and mountain pine beetles (*Dendroctonus ponderosae*) were historically restricted in range by colder winter temperatures. Shifts in forest composition to warmer and drier conditions will likely favour jack pine in some parts of Ontario, but it in turn could be heavily affected by mountain pine beetles. Coupled with increased blow-downs, more droughts, and changes to fire cycles, extraordinary pressures will be placed on the natural resilience of forested ecosystems. A striking change will occur as Ontario's northern boreal forest shrinks in size, being overtaken by grasslands in the northwest.

Ontario's water resources will also be affected by climate change. For example, warmer water and air temperatures, increased evaporation from water bodies and adjacent lands, longer ice-free periods, and the spread of invasive alien species will alter the ecology of the Great Lakes basin. In addition to historical fluctuations, it is projected that the water levels of the lower four Great Lakes could drop by as much as 115 cm within the next four decades. Additionally, coastal wetlands will be affected by lower lake levels, triggering changes in which species are present.

Warming water temperatures have already begun to change the range and abundance of fish species. In the next century, it is projected that lake water temperatures will rise 4.5°C. Moreover, the ecology of dimictic lakes (i.e., lakes that mix twice a year, in the spring and the fall) will be changed by rising temperatures, with forecasts showing that the province's lake trout (*Salvelinus namaycush*) habitat will be reduced by almost a third by the year 2100.

Changes to precipitation patterns and rising air temperatures will affect wetlands which serve as important habitat for waterfowl, amphibians, and many other species. For example, warming temperatures act as a catalyst for epidemics that are a leading cause in the decline of frog populations around the planet. Climate change will likely cause smaller wetlands to dry up, while larger ones will experience greater variations in water levels and become seasonal.

Northern peatland ecosystems, which are essentially composed of vegetation that has decayed over centuries to form waterlogged soils, will also likely be significantly altered by climate change. As the Expert Panel on Climate Change Adaptation warned, "Losing that carbon to the atmosphere as GHGs is a risk of global proportions" as temperatures rise and peatland ecosystems are lost.

ECO Comment

Humans are manufacturing environmental change on a planetary scale. Our actions are causing severe repercussions on our global climate and the Earth's biological diversity. The enormity of these changes has led some to remark that our own spiralling population growth, sprawling megacities and rampant use of fossil fuels have changed the Earth to such an extent we are entering a new geological era: the Anthropocene. The total effect on the Earth's plants and animals is described as a mass extinction event.

Many aspects of climate change and biodiversity loss are inseparable. Addressing one in isolation from the other would be a short-sighted mistake. Climate change adaptation and biodiversity conservation must be considered a two-pronged and interrelated approach to how the Ontario government plans and manages our land and water, fish and wildlife, and communities and economy.

The Ontario government started down the right path in 2005 by creating a biodiversity strategy. However, this strategy was laid out as a five-year plan that expired this year. The ECO believes that the time has come to renew the Ontario government's commitment to conserve biodiversity, critically reflect on what has worked, and systematically plan for what new actions must be taken. Climate change adaptation must be an integral part of a new biodiversity strategy to direct government action.

In November 2009, the Expert Panel on Climate Change Adaptation, appointed by the Ontario government, suggested that a new long-term approach be taken. The expert panel recommended,

Ontario's Biodiversity Strategy (2005) is a good starting point but, like others of its time, it did not fully embody an approach based on ecosystems being rapidly overtaken by more southern climate envelopes. A "Biodiversity Strategy for 2050" should envisage a very dynamic environment in which the province's system of parks, reserves and other types of protected areas, as well as areas under the *Niagara Escarpment Planning and Development Act*, the *Oak Ridges Moraine Conservation Act (2001)*, and the *Greenbelt Act (2005)*, become nodes in a system of migration paths or "Greenways" of interconnected habitat.

The ECO believes that a reconceived biodiversity strategy should clearly detail the responsibilities of all relevant ministries of the Ontario government, describe decisive actions that will be taken, contain quantifiable targets to track progress, and specify hard timelines for delivery. Without question, it also should specify target program areas, policies, and legislation that need revision to achieve its goals.

Conserving biodiversity is all of our responsibility. However, the Ontario government must articulate how it will systematically respond to biodiversity loss in the province, with particular attention to those losses that may be attributed to the impacts of climate change.

Recommendation 1

The ECO recommends that the Ministry of Natural Resources lead the development of a new and reconceived biodiversity strategy for the Ontario government.

For ministry comments, please see Appendix C.

3.2 Wanted: One Billion Trees

During the spring of 2010, Grand River Conservation Authority tree planters laboured to establish a floodplain forest in an old cornfield. Approximately 15,000 native trees – black walnut, silver and sugar maple, white and burr oak, cottonwood, white cedar and white pine – were planted on nine hectares of land in south Kitchener. The project is just one example of many tree planting initiatives occurring across Ontario.

To say that trees are important is an understatement. They provide habitat, shelter and food for animals, remove carbon dioxide from the atmosphere, provide shade on hot summer days, prevent soil erosion, provide timber, pulp and paper and increase property values. Unfortunately, approximately 80 per cent of the original woodland cover in southern Ontario has been removed for farms, timber and urban development. Woodlands have been transformed from their original state by 200 years of land clearing and re-growth, woodland management practices, and the depredations of introduced species and disease. Today's woodlands are smaller and younger than those of the past. Since most of the land in southern Ontario is owned privately or by municipalities, the provincial government decided that the most effective way to maintain and restore forest cover is to work with landowners.



Afforestation in Ontario

Afforestation – the establishment of a forest on land that has not recently been forested – has been carried on in Ontario since the late 1800s. In 1871, the Ontario government passed the first piece of legislation to encourage tree planting, in this case along highways in the province. Early afforestation programs focused on abandoned or marginal farmlands that suffered soil erosion or reduced productivity, the result of extensive forest clearing during that time.

Historically, the Ministry of Natural Resources (MNR) was responsible for many of the afforestation programs on private lands in Ontario. For example, under the Agreement Forest Program, the Department of Lands and Forests (now MNR) entered into long-term agreements with landowners (e.g., counties, conservation authorities, townships and municipalities) to reforest, develop and manage "wastelands" or lands no longer fit for agriculture but suitable for trees. Through the program, which began in 1922, 147.5 million trees were planted on over 120,000 hectares of land in southern Ontario. In addition to these "agreement forests," MNR operated a number of nurseries across the province, providing landowners with trees at no cost until 1980, when a nominal fee was introduced. Between 1905 and 1996, MNR nurseries supplied landowners with 792 million seedlings.

Since the 1990s, MNR's afforestation role has changed significantly from its early roots. MNR slowly began to negotiate the termination of agreement forests with landowners in 1994 and eventually discontinued the program in 1998. MNR also closed and sold its nurseries between 1993 and 1999. Today, only one MNR seed production facility remains, the Ontario Tree Seed Plant near Angus, which was established in 1923. MNR also supports Ontario Stewardship councils, who planted 5.5 million trees between 2004 and 2009.

Conservation authorities (CAs) also have a long history in tree planting and afforestation. Since the 1940s, CAs have provided planting services to landowners, including those that did not qualify for provincial programs. Over the last few years, on average, CAs have planted over 2.5 million trees each year.

With MNR stepping back from afforestation planning and operations, many other agencies and organizations became involved in tree planting programs on private land. These include Trees Ontario, the Ontario Soil and Crop Improvement Association, the Ontario Forestry Association and the Wetland Habitat Fund.



To support wildlife species, conserve biodiversity, and maintain water quality and quantity, Environment Canada recommends that all watersheds should have at least 30 per cent forest cover. Forest cover in southern Ontario is on average 22 per cent, although some areas have much less. For example, southwestern Ontario has only 17 per cent forest cover and Essex County has about 5 per cent forest cover. The Toronto and Region Conservation Authority estimates that at the current rate of tree planting, it would take 175 years to reach 30 per cent forest cover in the West Humber, Lower Humber and Black Creek subwatersheds. To achieve 30 per cent forest cover, Trees Ontario estimates that over one billion more trees need to be planted.

Provincial Policy Statement

The Provincial Policy Statement (PPS), issued under the *Planning Act*, identifies that development and site alteration are not permitted in southern Ontario's significant woodlands unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions. However, the PPS provides a very broad definition of significant woodlands and does not specify who is responsible for evaluating or identifying them. Unlike provincially significant wetlands, it is the municipality's discretion to evaluate or identify significant woodlands, as MNR has no formal role. Although MNR's Natural Heritage Reference Manual includes recommended criteria for municipalities to identify significant woodlands, municipalities may choose to develop their own criteria. In our 2008/2009 Annual Report, the ECO reported that the PPS does not provide sufficient safeguards to protect the province's significant woodlands and recommended that MMAH, during its 2010 review of the PPS, introduce effective mechanisms for protecting significant woodlands, including mechanisms for woodland evaluation, designation, tracking and reporting.

Managed Forest Tax Incentive Program

Managed Forest Tax Incentive Program (MFTIP) is an MNR program under which landowners receive property tax reductions for managing forests on their land; such tax reductions provide incentives for landowners to conserve their existing or newly planted woodlands. In our 2004/2005 Annual Report, the ECO reported on an *Environmental Bill of Rights, 1993 (EBR)* application requesting that MNR review how properties are assessed for taxation purposes under the MFTIP. MNR conducted a review

of the program and produced eight recommendations as a result. In November 2009, the ECO requested that MNR provide an update on the implementation of these recommendations.

MNR appears to have made good progress on implementing the recommendations arising from the EBR review. For example, a MFTIP Implementation Committee was created in December 2004 to investigate and address the concerns brought forward by the EBR review. Based on the committee's investigation and recommendations, the MFTIP program was subsequently amended to: ensure that eligible woodland properties are assessed similar to farm lands; increase the planning term to 10 years; and enhance the provision for eligible areas.

Between June 2004 and January 2009, landowner participation in the MFTIP increased by 1,500 properties (14 per cent) and 169,000 hectares (24 per cent). MNR informed the ECO that it will continue to "explore ways to further enhance the MFTIP... to support initiatives that result in responsible stewardship and expand opportunities to increase the greening of Ontario."

One of the recommendations that came out of MNR's review of the MFTIP was that the ministry work with the Ministry of Finance to address how changes to the MFTIP could support government initiatives for the "greening" of southern Ontario. On this subject, the ECO asked MNR whether it might consider updating or expanding the goals of the MFTIP to reflect the government's greenhouse gas reduction targets and biodiversity goals. MNR responded that the program "already includes these objectives" and, therefore, changes to the MFTIP have not been made to specifically address these goals.

Loss of Woodland Biodiversity

The biodiversity of southern Ontario's woodlands is currently under attack from invasive alien species and disease. In our 2003/2004 and 2004/2005 Annual Reports, the ECO reported on how infestations of invasive species have caused the loss of biodiversity and native tree species (e.g., ash and maple) in Ontario's woodlands. The ECO requested that MNR provide an update on how it addresses the loss of biodiversity and native tree species caused by infestation and disease in its afforestation programs.

MNR responded that in 2005 and 2006, it provided \$1 million in funding to local tree planting agencies to mitigate the loss of biodiversity from invasive species, including the emerald ash borer and Asian long-horned beetle, in the Toronto area. In those projects, MNR promoted diverse and locally adapted planting to help mitigate the loss of biodiversity. Additionally, MNR identified that in 2009-2010, it initiated a collaborative project with the Canadian Forestry Service to examine impacts on forest stand structures, habitat quality and biological communities when an invasive species is introduced, such as emerald ash borer.

50 Million Tree Program

In August 2007, MNR announced that it would partner with Trees Ontario to plant 50 million trees in Ontario by 2020. The goals of the 50 Million Tree Program are to "sequester carbon, enhance and diversify southern Ontario's landscape, increase the capacity to withstand climate change, and increase wildlife habitat." MNR, through Trees Ontario will provide funding for local tree planting agents (e.g., CAs, Ontario Stewardship Councils, forestry consultants and First Nations) to deliver the

program to landowners and plant trees on private and public lands. By June 2010, over 5.7 million trees have been planted in Ontario by local planting agents through this program. In 2013, MNR's target of two million trees per year will increase to five million trees per year to achieve the 50 million target by 2020.

With provincial facilities – other than Ontario Tree Seed Plant – out of operation, planting agencies were left with no option but to acquire seedling stock from private nurseries. MNR identified that the number of trees planted during the program's first year did not meet the target because neither sufficient nor appropriate native species seedlings were available. This shortfall occurred because seedlings must mature for three years before they are ready for planting, and nurseries would not run the risk of increasing production to meet the program targets without a guarantee that seedlings will be purchased. To address this problem, MNR is creating a Nursery Stock Production Incentive Program within the 50 Million Tree Program. Under this fairly complex program, MNR, through Trees Ontario, will provide a rolling loan to nurseries to guarantee that seedlings of the right species and seed source will be available to planting agencies. MNR advised the ECO that the program will not be publicly announced because it is administratively complex in nature.

MNR identified to the ECO in January 2010 that demand for the 50 Million Tree Program exceeded supply for the 2010 planting season. While one might assume that "supply" is tree seedling stock, the ECO learned that "supply" actually refers to MNR's financial budget for the program. MNR would not fund planting agents to plant more trees than the two million per year target established, despite ability and interest to plant more. Planting agencies were allocated the same amount as they planted in 2009.

Seed Stocking

When MNR closed its nurseries in the 1990s, MNR also withdrew from seed collection co-ordination forcing private nurseries to obtain their own seed, not necessarily from local genetically appropriate stock. The Ontario Tree Seed Plant is MNR's last remaining connection to seed collection in Ontario. In our 2002/2003 Annual Report, the ECO recommended that MNR "ensure that the Ontario Tree Seed Plant maintains sufficient seed stock of all native species from across the province's seed zones."

MNR updated the ECO that since 2003, it "has been engaged in a strengthened cone collection program across the province ... and has successfully maintained and increased native tree seed inventories." For example, between 2002 and 2009, MNR increased its annual seed collection from 61,400 to 156,200 litres of seeds, 99 per cent of which were native species. MNR stated that the Ontario Tree Seed Plant continues to communicate and work closely with growers and end users to ensure there is an ample supply of seed to meet current and future requirements. In addition, MNR stated that it has been directly involved with seed orchard collections to build an additional inventory of improved seed.

ECO Comment

Afforestation has been a major part of Ontario's forest management history for at least the last 140 years. MNR is involved in a number of afforestation initiatives and projects on which the ECO has commented in the past, including the MFTIP. The ECO is pleased that MNR has made good progress on implementing recommendations to the MFTIP that resulted from an EBR application for review of the program. MNR's review of the MFTIP and subsequent implementation of recommendations

demonstrate the value of the application for review process under the EBR. The ECO is disappointed, however, that MNR will not update or expand the MFTIP goals in light of the Ontario government's greenhouse gas reduction targets or biodiversity goals.

The ECO is generally pleased with the overall goals of MNR's 50 Million Tree Program to enhance and diversify southern Ontario's landscape, increase the capacity to withstand climate change, and increase wildlife habitat through afforestation. While the idea of planting 50 million trees over 13 years (an annual average of 3.8 million trees per year) may seem ambitious, it pales in comparison to previous efforts. Prior to the 1980s, an average of 20 to 30 million trees per year were planted in Ontario through afforestation programs. Today, on average, three million trees are planted annually. The ECO does not believe that the target of 50 million trees planted in Ontario by 2020 will provide Ontario with sufficient forest cover, mitigate woodland biodiversity loss from invasive species and mitigate the effects of climate change. Trees Ontario, the organization with which MNR is partnering to implement the program, believes that the province's target of 50 million trees falls far short of the one billion trees that need to be planted in Ontario to achieve desirable forest cover.

For over 100 years, the provincial government was heavily involved in reforestation and afforestation initiatives; its withdrawal during the 1980s has had a significant impact on the landscape. When MNR guided afforestation initiatives in the province, more trees were planted, plantations were larger and native seedlings were readily available and affordable through provincial nurseries. Fewer trees are now planted, plantations are smaller and the availability of native seedling stock is inconsistent.

While there are a number of afforestation initiatives in Ontario, there is currently little if any overall provincial strategic direction for tree planting programs in Ontario. With no overall provincial direction, funding is variable and planting agencies use a range of planting approaches and delivery mechanisms. To ensure consistency and success in Ontario's tree planting efforts, the ECO believes that MNR should develop a southern Ontario woodland strategy that is biodiversity driven, planned at the landscape level and addresses adaptation to climate change. The strategy should include sufficient policy and programs, to:

- co-ordinate tree planting on private land;
- ensure the availability of seed and seedling stock; and
- co-ordinate landowner incentives to maintain and conserve woodlands.

The strategy should set provincial planting targets, require that appropriate native species be used, set out priorities for key planting areas (such as watersheds with less than 30 per cent forest cover), and incorporate climate change mitigation and adaptation considerations. The ECO also urges MNR to measure and report on the overall progress of afforestation and tree planting efforts in southern Ontario.



Recommendation 2

The ECO recommends that the Ministry of Natural Resources lead a co-ordinated afforestation strategy for southern Ontario, with a target of planting 1 billion trees of native species, to address the long-term ecological function of natural heritage systems and the impacts of climate change.

For ministry comments, please see Appendix C.

3.3 Species at Risk: Progress and the Path Ahead

There are seven species that once lived in Ontario that have gone extinct globally in modern times. Another 13 species that once lived in Ontario are no longer found here. The survival of a further 187 species of plants and animals in the province is in jeopardy. These numbers increase year after year.

This unprecedented loss of species is the most visible part of what scientists call the biodiversity crisis. The most significant threats are habitat loss, climate change, invasive species, over-harvesting and pollution. Species at risk are the tip of the spear of this global crisis.

Three years ago, the Ontario government passed the *Endangered Species Act, 2007 (ESA)*. The law's intent is to create a robust recovery planning process that effectively protects at-risk species and their habitat, as part of a broader effort to conserve Ontario's biodiversity. The credibility of any such system depends on taking coherent action to reduce and eliminate threats that have jeopardized the survival of species.

In the spring of 2009, the ECO released a Special Report to the Ontario legislature, titled "The Last Line of Defence: A Review of Ontario's New Protections for Species at Risk." It assessed the new approach to protecting and recovering species at risk, giving the Ontario government high praise for the *ESA*. It is a progressive law that has the potential to make a real difference. However, the ECO's Special Report raised numerous concerns about the path forward, issuing a series of recommendations to the Ontario government to make this new system more effective, robust, defensible and credible. The Special Report concluded,

The province's new framework for protecting at-risk species is a vast improvement, in many ways, over the previous law and related policies. However, the new framework contains provisions that, if inappropriately exercised, could lead to the continued imperilment of many of Ontario's most vulnerable species.

Despite the science-based process for some aspects of the legislation, many of the law's provisions are highly discretionary in nature. The success of protecting and recovering species at risk relies on administering the Act in good faith. New flexibility tools should be used to alleviate conflicts that arose under the old law, not to accommodate a business-as-usual approach in which the environment suffers. When conflicts do arise between competing priorities, the protection of species at risk should prevail.

The purpose of this year's update is to examine the progress that the Ontario government, led by the Ministry of Natural Resources (MNR), has made in protecting and recovering Ontario's species at risk.

3.3.1 International Year of Biodiversity

The United Nations General Assembly chose the year 2010 as the International Year of Biodiversity. It did so to raise understanding, to assess what has been done by governments, and to chart a new way forward. The loss of biodiversity is a crisis of global proportions. For example, there are more than 3,000 *critically endangered species* around the world, according to the IUCN Red List of Threatened Species.

In October 2010, the world will meet in Nagoya, Japan, to set targets and detail the necessary steps to halt biodiversity loss. Almost every country on the planet pledged "to achieve a significant

reduction of the current rate of biodiversity loss" by 2010. Unfortunately, this goal was not met by any country, according to the United Nations. A renewed effort is unequivocally needed.

In Ontario, there is no law that specifically requires that government conserve the province's biodiversity, let alone monitor it. In our 2009 Special Report, the ECO recommended that,

the Government of Ontario establish a statutory responsibility for monitoring and reporting on the state of the province's biodiversity.

The Ontario government has taken no action on this recommendation, informing the ECO that "a statutory requirement is not necessary at this time."

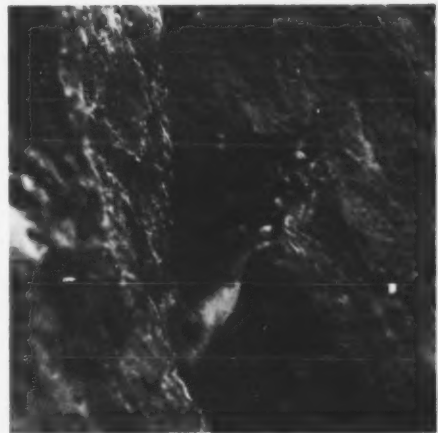
Status of At-Risk Species

The Committee on the Status of Species at Risk in Ontario (COSSARO) functions as a body independent from government, whose members must have relevant scientific expertise or Aboriginal traditional knowledge. It is responsible for determining the classification of species at risk: endangered, threatened, special concern, extirpated or extinct. Classification changes can reflect new information about the species' population status, habitat and threats to its survival.

There were 183 species listed as at-risk when the ESA was passed in 2007. COSSARO has since submitted three reports to the Minister of Natural Resources. These reports made changes to the Species at Risk in Ontario (SARO) list, which were then reflected in O. Reg. 230/08 under the ESA.

Ontario now has 200 species classified as endangered, threatened, of special concern or extirpated. There have been 17 new species added to the SARO list since 2007, while 3 species have been de-listed and are no longer considered to be in jeopardy. The at-risk status has deteriorated for 11 species during this same period, while only 3 species have had their status improve. Several other species are now distinguished geographically into subgroups which adds to the list, as risk status has increased or lowered in only some areas of their total range. COSSARO also reviewed the status of 20 other species, making no changes.

The scientific assessment of species by COSSARO appears to be functioning as intended by the ESA. It is a remarkable improvement over past practice when the government itself had the responsibility for classifying species at risk, which often led to the perception that it was a politicized process. However, given that MNR can no longer control the "official" numbers of species at risk, the ministry now must have a more responsive internal capacity, both in terms of staffing and expertise, to fulfil its obligations related to protection and recovery. Additionally, the Ontario government must ensure that the members of COSSARO are sufficiently remunerated for their time and expertise, and that they have the necessary resources at their disposal to fulfil their important responsibilities under the ESA.



Recovery Strategies for Threatened and Endangered Species

Recovery strategies for all threatened and endangered species, as well as management plans for species of special concern, are required to be prepared within timelines set by the ESA. By June 2010, the Minister of Natural Resources ensured that independent recovery teams had prepared 14 recovery strategies. The completion of these recovery strategies is a marked improvement over past practices, when few strategies were ever finalized or made public. Notice also was given that recovery strategies for two aquatic species and one migratory bird were delayed "to allow for cooperation" from the federal government.

MNR has begun using a "request for consulting services" process for the preparation of some recovery strategies. This process appears to be highly problematic. For example, requests have been issued to write recovery strategies for recovery teams. Additionally, ministry criteria assigns significant weight to contract costs compared to species expertise. MNR also has an opportunity to influence the content at multiple stages of the drafting of a recovery strategy, which raises serious questions about the impartiality of the strategies. The "recovery strategy preparation team" is required to follow MNR's Guidance for Preparing an Ontario Recovery Strategy, which has never been posted on the Environmental Registry for public consultation. This process essentially out-sources the preparation of recovery strategies, giving the illusion of independence while MNR maintains control of the contents of recovery strategies. Moreover, if the role of the recovery team is reduced to simply commenting on externally written recovery strategies that are ultimately finalized by MNR, it marginalizes their expertise and undermines the ESA's intent.

Management Plans for Species of Special Concern

No management plans have yet been finalized for any species. However, in our 2009 Special Report, the ECO identified a serious flaw in the ESA relating to actions required of the Ontario government for species of special concern. As a result of wording in the ESA, less than half of the 49 species of special concern will benefit from a statement which articulates what actions the Ontario government will take to protect and recover them. As a result, the ECO recommended,

the *Endangered Species Act, 2007* be amended to require the preparation of government responses for all listed species of special concern, in order to outline its specific conservation actions for those species.

The Ontario government has taken no action to amend the ESA and fix such weaknesses. In the fall of 2009, the Ontario government introduced, passed, and proclaimed the *Good Government Act, 2009* (Bill 212). This omnibus legislation amended many different statutes, including laws under MNR's purview. Unfortunately, it failed to make any such revisions the ESA. This was a lost opportunity.

A second opportunity was lost when the government introduced Bill 68 (*Open for Business Act, 2010*) for First Reading in May 2010. This omnibus bill proposed to amend the *Crown Forest Sustainability Act, 1994* (CFSA) to make existing forest management plans (FMPs) adopt ESA approvals, subject to the minister deciding that the process is comparable between the two statutes. This bill also proposed that FMPs that include these approvals, such as permits to destroy or damage habitat, cannot be found to fail to provide for the sustainability of a Crown forest. These amendments appear to limit the possibility of judicial reviews of FMPs as they pertain to species at risk.

Government Actions for Protection and Recovery

Within nine months after a recovery strategy is finalized for an endangered or threatened species, the Minister of Natural Resources is required by the ESA to publish a statement that summarizes the prioritized actions that the Government of Ontario intends to take to protect and recover a particular species at risk. In our 2009 Special Report, the ECO stated the following as a key to the successful implementation of the ESA:

- MNR should ensure that its response statements to recovery strategies and management plans are robust, effective, and defensible and that its commitments are fully implemented in a timely fashion.

MNR has not developed any policies to guide this crucial step in the recovery planning process. This lack of general direction is problematic internally for MNR. The lack of policy also does nothing to break down the silos that exist within the Ontario government; specifically, policies are necessary to at least explain to other ministries what their potential roles and general responsibilities might be for protecting and recovering any given at-risk species.

As of June 2010, the Minister of Natural Resources had only been required once by the ESA to finalize a statement describing the actions that the Ontario government will take for an at-risk species. There are currently 85 endangered species and 52 threatened species that will require a government response to their respective recovery strategies at some point in the near future. The only one completed to date, Ontario's Woodland Caribou Conservation Plan which was released in October 2009, raises multiple concerns about how this resource-intensive step of the recovery planning process will be handled in the future (see Part 3.5 of this Annual Report). For example, it is troubling that the Minister of Natural Resources failed to complete it within the legally required time.



Protection and Recovery is Not Solely MNR's Responsibility

The Ontario government as a whole has direct responsibilities to protect and recover species at risk, according to the ESA. However, as illustrated by Ontario's Woodland Caribou Conservation Plan, the illusion is given that only MNR has direct responsibilities to protect and recover species at risk. For example, the conservation plan's specific role for other relevant ministries – such as the Ministry of Northern Development, Mines and Forestry (MNDMF), the Ministry of the Environment (MOE), and the Ministry of Energy and Infrastructure (MEI) – is vague at best. The conservation plan gives the strong impression that MNR is hoping that other ministries will assume their appropriate share of responsibility in protecting Ontario's species.

Not surprisingly, other ministries appear to be confused about their responsibilities. This confusion is evidenced in numerous comments that have been submitted on draft recovery strategies and habitat regulations. For example, on one draft recovery strategy, MNDMF staff commented, "In general, industrial areas should not be considered peregrine habitat at all and mining activity,

including exploration and rehabilitation, must be allowed to continue without any restriction. The birds can use these areas 'at their own risk' as it were, thereby allowing unrestricted operations. Should the birds find that the location is unsuitable, they will find another, better site somewhere else." In another, more positive example, the Ministry of Agriculture, Food and Rural Affairs (OMAFRA) sought more regular meetings with MNR as "it is unclear what actions would be expected of farmers and rural landowners trying to interpret the [habitat] regulations."

Habitat Protection

In February 2010, nine of Ontario's species at risk became the first to receive new regulated protection of their habitat (see Part 3.4 of this Annual Report). By defining the habitats of these nine species within O. Reg. 242/08, the habitat protections provided under the ESA were triggered to take effect immediately, providing stronger protections for at least some of those species. This move was in partial fulfillment of the government's commitment to regulate the habitat of 10 identified species at risk by June 30, 2009. Shortly after finalizing this regulation, the ministry proposed two technical guidance documents for forestry activities to provide direction on what activities may occur in the protected habitat of peregrine falcons (*Falco peregrinus*) and wood turtles (*Glyptemys insculpta*).

In 2007, the Minister of Natural Resources committed to passing a species-specific habitat regulation for the forest-dwelling population of woodland caribou (*Rangifer tarandus caribou*) by June 2009 (see Part 3.5 of this Annual Report). Three years later, the government has yet to regulate woodland caribou habitat. In our 2006/2007 Annual Report, the ECO stated that "the scope of genuine protection prescribed for their habitat will be a measure of the effectiveness of the new law, as well as a benchmark to assess the environmental sustainability of policy choices by the Ontario government for northern Ontario."

In March 2010, MNR finalized its Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (see Part 3.7 of this Annual Report). This forestry guide applies to Crown forests in the entire Area of the Undertaking (AOU), which is essentially the middle third of Ontario where commercial forestry occurs. It provides the description of habitat and operational prescriptions to address 58 species at risk that inhabit the AOU, with the exception of woodland caribou (which the ministry intends to address in its Boreal Landscape Guide to be released in 2012). The guide is noteworthy as it does provide some habitat protections for species of special concern that are not required by the ESA, such as for the den and rendezvous sites of eastern wolves (*Canis lycaon*).

Permits and Agreements to Allow Otherwise Prohibited Activities

The ESA contains numerous "flexibility tools" to allow otherwise prohibited activities, such as the killing of species at risk or the destruction of their habitat, to occur in particular circumstances. This flexibility can be applied through various types of permits, agreements, and exemptions. Safeguards within the ESA apply to some of these approvals: an overall benefit to the species must be achieved, alternatives must be considered, and/or steps must be taken to minimize adverse affects.

As of June 2010, MNR had issued 170 permits to allow otherwise prohibited activities. The vast majority of these permits are for activities in southern Ontario, with most of them related to research and monitoring projects so far.

MNR also can enter into agreements under O. Reg. 242/08 that are similar to permits, but do not necessitate applying the "overall benefit" test. Generally, this regulation has a deadline of June 30, 2010, for proponents (except related to water power) to have obtained such agreements. As of June 2010, MNR had issued 93 agreements related to aggregate extraction, 74 agreements related to municipal drains, 12 agreements related to development and infrastructure, and one related to water power.



For agreements relating to aggregate operations and municipal drains, MNR did solicit public comment using the Environmental Registry, but it did not share copies of the actual proposed agreements based on the possibility that harm might occur to the species if their locations were known. As a result, it is very difficult for the public to comment as little or no site-specific information was given. Moreover, the mitigation approaches were based on groupings of species (e.g., trees) without specific details: "Retain mature individuals greater than a minimum size (depends on species)."

Patterns do emerge in examining the approvals that allow prohibited activities to occur. For example, MNR has entered into 16 agreements with proponents in Renfrew County for aggregate pits to allow harm to wood turtles (*Glyptemys insculpta*) and/or their habitat, on both private and Crown lands. The cumulative effect of these approvals likely has a significant impact on this species at risk. Moreover, it raises serious concerns with MNR's screening process under the Aggregate Resources Act (ARA), which allowed so many pits to operate in what is likely significant wildlife habitat.

It is critically important that these permits and agreements be subject to the EBR for the public to have the right of notification, to submit comments and have them considered, and for the ministry to consider its Statement of Environmental Values (SEV). The ECO recommended that "all instruments that may be issued pursuant to the *Endangered Species Act*, 2007 and its regulations be prescribed under the *Environmental Bill of Rights*, 1993." It took until January 2010 for MOE to propose to prescribe some of these approvals as Class I proposals under O. Reg. 681/94 under the EBR. Even then, at MNR's direction, this proposal did not include those approvals that would be subject to the *Environmental Assessment Act*.

Policy Direction

It is critically important that policies exist to guide and maintain the credibility of the recovery planning process. For example, guidance is necessary to inform how recovery team members are chosen and how recovery teams should function, as well as to direct how recovery strategies are written and what content may be appropriate. The ECO flagged this key to successful implementation in our 2009 Special Report:

MNR should develop and consult on guidelines that ensure recovery strategies and management plans are robust, effective, and defensible in order to adequately protect and recover species at risk and their habitat.

No such policies have yet been made public by MNR. The ministry's lack of policy has raised valid questions about the ministry's involvement in what should be an arms-length and apolitical process. Additionally, a key outstanding issue remains over who judges – the recovery team or MNR – when a recovery strategy is finalized, triggering public notice and the next steps in the recovery planning process.

In July 2008, MNR used the Environmental Registry to consult the public on two policies to define and explain habitat protection under the ESA. However, the ministry has yet to publicly release its policies related to general habitat protection procedures, procedures for habitat regulations, guidance on habitat protection orders, and guidance on stop work orders. This general lack of policy will create confusion for the public and uncertainty for at-risk species each time action is required related to habitat.

Moreover, the ministry has developed a policy on how to interpret what constitutes damage and destruction of habitat. While MNR has yet to share this policy with the public, the ministry is already applying it. For example, in April 2010, MNR used this policy as part of its argument to deny an application for investigation under the EBR related to the alleged destruction of cougar habitat. All such policies must be posted on the Environmental Registry for public notification and comment as required by the EBR.

In our 2009 Special Report, the ECO urged MNR to develop and consult the public on policies that guide approvals under the ESA, including a clear discussion on what constitutes an "overall benefit" for at-risk species. The ministry has yet to consult the public on such environmentally significant policies, although it created four "interim" policies for different kinds of permits in 2008. In a species-specific case, the ministry created *de facto* policy for endangered butternut trees by imposing guidelines written by a third-party; instead, MNR should have consulted the public using the Environmental Registry as required by the EBR to make it clear that these guidelines were going to be applied as ministry direction whenever a proponent sought such an approval under the ESA.

Program Funding

Proper implementation of the ESA requires sufficient and stable funding. After a substantial delay, MNR provided the ECO with information related to the funding of its species at risk program. According to the ministry, the program has an annualized \$7M operating allocation, with an additional \$6.5M allocation for the 2010/11 budget year. The ECO was not provided information on how this budget was spent within the actual program.

In 2007, the Species at Risk in Ontario Stewardship Program was allocated \$18 million over roughly four years. Its purpose is to support activities that preserve and rehabilitate habitat, implement recovery strategies and management plans, and educate the public. Preference is given to applicants that already have a minimum of 1:1 matching funds, and this program has funded approximately 100 projects annually since its inception. It is unknown whether funding for this valuable program will be continued after 2011.

In our 2009 Special Report, the ECO recommended "MNR expand its Conservation Land Tax Incentive Program to provide financial incentives to private landowners to protect the habitat of a broader range of species at risk, including for recovery purposes." In the context of species at risk, this program applied only to properties with endangered species, excluding the habitat of all other at-risk categories. In 2009, only 63 properties across all of Ontario participated in this program for incentives

to maintain endangered species habitat. MNR has taken no action to expand this incentive program, which would require the co-operation of the Ministry of Finance.

3.3.2 Dam the American Eels

In Ontario, many rivers and streams have been fragmented by dams and hydro-electric stations, creating substantial barriers to fish migration. For example, Ontario Power Generation (OPG) operates 65 hydro-electric stations and 240 dams on 24 river systems. While hydro-electric dams contribute to Ontario's energy supply, these structures can have damaging effects on aquatic ecosystems and species. Dams can fragment aquatic ecosystems, create barriers to fish migrating upstream, alter river flow and temperature, and kill fish in turbines during downstream passage.

Dams and hydro-electric stations along the St. Lawrence River, such as the Moses-Saunders Power Dam near Cornwall, are considered a threat to the survival of the American eel (*Anguilla rostrata*) population in Ontario. It is classified as an endangered species under the *Endangered Species Act, 2007 (ESA)*.

Eels have a complex life cycle. They are born, spawn and die at sea, have a single breeding population, and some migrate to freshwater to mature. The eel has a vast range on the western side of the Atlantic Ocean from Venezuela to Greenland and Iceland. They migrate great distances throughout their life stages, some travelling as far as 6,000 km. The species' native Canadian distribution includes all fresh water, estuaries and coastal marine waters that are accessible from the Atlantic Ocean. Juvenile eels (elver) migrate through the St. Lawrence River to Lake Ontario, where they mature into silver eels and migrate back to the Atlantic Ocean, to spawn in the Sargasso Sea. More than 25,000 dams block the eels' freshwater range, from Florida to Ontario.

Eels are an important fishery worldwide, for both Aboriginal traditional use and as a commercial fishery. Eels are harvested at virtually all life stages and in most of their habitats, such as freshwater lakes and rivers, estuaries and marine environments. However, a plummeting eel population forced MNR to close Ontario's commercial eel fishery in 2004 and the recreational fishery in 2005.

Eels were once abundant in the St. Lawrence River and Lake Ontario, which by some estimates comprised approximately half the fish biomass in the 1600s. Since the 1970s, the eel population has been declining at an alarming rate and the full causes for the decline are unknown. However, dams have an impact on eel populations in two ways: they restrict access to upstream habitats and cause eel mortality in turbines.

In the St. Lawrence River watershed, over 8,000 dams restrict access to more than 12,000 km² of freshwater habitat for eels. Two major dams block eel migration from Lake Ontario; the Moses-Saunders Power Dam (which includes the R. H. Saunders Generating Station in Ontario and the Robert Moses dam in New York State) constructed in the 1950s and the Beauharnois dam near Montreal constructed in the 1930s. Both dams were retrofitted with eel ladders in 1974 and 1994, respectively, to facilitate the upward passage of eel migration. Unfortunately, eels migrating downstream are estimated to suffer at least 40 per cent mortality due to passage through turbines.

MNR has monitored eels ascending the Moses-Saunders Dam ladder since its construction. In 1982 and 1983, more than 26,000 eels per day were observed ascending the ladder during peak migration;

by 2002, eel passage declined to approximately 55 eels per day. The Lake Ontario Committee of the Great Lakes Fishery Commission issued a statement in 2002 that without management intervention, extirpation of the eel in the Great Lakes Basin is likely and that management actions within the St. Lawrence River and Lake Ontario should be taken to reduce eel mortality at all life stages and to encourage safe, effective upstream and downstream migration.

In 2007, eels were classified as an endangered species under the ESA. Ontario Regulation 242/08 under the ESA exempts hydro-electric generating stations from the prohibitions against killing and habitat destruction if an agreement is entered into with the Minister of Natural Resources. While all other stations have a three-year grace period to enter into an agreement, the R. H. Saunders Generating Station had one year (until June 2009) to enter into an agreement respecting eels.

In June 2009, the Minister of Natural Resources entered into a 20-year agreement with OPG under the ESA respecting eels at the R.H. Saunders Generating Station. The agreement includes a five-year implementation plan consisting of a trap and transport project (to capture, transport and release large eels upstream and downstream of the generating station), a juvenile eel stocking program (to supplement natural recruitment loss) into the St. Lawrence River and Lake Ontario, and requirements to operate and maintain the existing eel ladder. Under the agreement, OPG is required to implement and monitor the effectiveness of the implementation plan. MNR will audit OPG at least once a year to review compliance with the agreement.

It is noteworthy that the eel recovery strategy and the government's response were not finalized prior to this agreement. The ECO believes that the agreement should be amended if necessary to reflect both documents once they are completed. While the agreement appears to mitigate some of the effects of the hydro-electric station on eels (e.g., stocking and transporting eels), it does not effectively address the protection and recovery of eels. For example, the agreement's pilot trap and transport program superficially addresses safe downstream migration of eels – it artificially relocates eels that may or may not be ready to migrate. An amended, strengthened agreement would emphasize safe, natural migration of eels downstream, such as the installation of bypass structures or altering the timing of operation (turn off turbines at night during migration) to reduce turbine mortality. Safe and effective natural passage of eels, both upstream and downstream, must be addressed at dams along the St. Lawrence River and tributaries if Ontario's eel population is to recover. Given these concerns, the ECO cautions MNR in using this agreement as a template for other hydro-electric stations where eels are present.

Although the Moses-Saunders and Beauharnois dams have eel ladders to help migration upstream, there are many dams in Ontario with no fish or eel ladders. For example, the Ottawa River is blocked by 12 hydro-dams, none of which are equipped with an eel ladder. Fragmented rivers and streams have damaging effects on the survival of many other aquatic species: dams prevented Atlantic salmon from reaching their spawning grounds, and were considered to be a significant factor in their decline and ultimate extirpation from Lake Ontario.

The ECO believes that MNR should require, through approvals issued under the *Lakes and Rivers Improvement Act (LRIA)*, that all new dams facilitate natural passage of fish by installing fish ladders or other similar structures. In addition, MNR should require all existing dams to be retrofitted with fish ladders or other similar structures to facilitate safe and natural migration along the course of all Ontario's streams and rivers, through LRIA approvals for improvement or repair to dams.

ECO Comment

Deliberate, systematic and co-ordinated action by the Ontario government is essential to conserving the province's biodiversity. The importance of this task cannot be over-stated when it comes to the protection and recovery of species at risk – those plants and animals that may disappear entirely from our province if nothing is done. The Ontario government as a whole, led by the Ministry of Natural Resources, must confront this challenge head-on with sound, defensible actions that make a real on-the-ground difference. The lack of true action is the prime reason why we have begun the 21st century with a loss of biodiversity reaching dire proportions.

The Ontario government is facing a steep learning curve to protect and recover species at risk. The *Endangered Species Act, 2007* is a remarkable improvement over the past legislative regime, but it is not sufficient by itself. The first several years since this law was passed have been somewhat of a baptism by fire. The Ontario government is still coming to terms with this new priority: to protect Ontario's vulnerable species.

A chronic problem of the past was reconciling the government's conflicted role: safeguarding the environment, while also being ultimately responsible for many of the activities that put it in a state of jeopardy. The ESA has many good tools to bridge this conflict; however, it remains to be seen whether the Ontario government is capable of getting to a "no" when faced with critical decisions about approving an activity that threatens the province's biodiversity.

Tough choices need to be made to not allow an activity that would jeopardize a species or its habitat when warranted. The ESA must not be misused to facilitate a business-as-usual approach to the environment, simply another bureaucratic hurdle to be overcome by a proponent in a predetermined approvals process. The point of passing the ESA in 2007 was to move out of an era of neglect for our natural environment, and to take action to safeguard the most threatened aspects of Ontario's biodiversity.

Another chronic problem of the past was the almost total absence of ministry policy directing the protection of species at risk. Now, MNR has developed many policies, yet is failing to share them with the public as required by the EBR. The ministry has a legal obligation to consult the public on environmentally significant policies. This lack of transparency undermines the ministry's credibility and, more importantly, ultimately undermines the protection of species at risk.

A key advantage of the ESA, compared to the past, is its flexibility in potentially balancing ecological and socio-economic concerns. However, it is this very flexibility that also represents the greatest risk to success. Based on the last several years, it is apparent MNR has gone to great lengths to take a collaborative approach for species at risk. Yet, in some cases, compromises that all stakeholders can notionally live with results in an overall failure to address the root problem. This type of lowest common denominator approach can often achieve little of substance: the protection and recovery of a species that may be lost forever if nothing is done. The true measure of success is not whether a recovery strategy has been developed or the government has said what actions it will take, but rather, whether a species is on the right path to being de-listed. The Ontario government bears that responsibility.



Photo: MNR

MNR must be a champion for Ontario's biodiversity. For it to do so, it must have all the necessary legal and policy tools, as well as the internal capacity, expertise and clout. Other ministries of the Ontario government must then follow the lead of MNR and assume their share of responsibility when necessary. Without such co-operation and joint action, the Ontario government will not be able to stave off the erosion of our province's biodiversity. That would be a tragic choice.

Recommendation 3

The ECO recommends that the Ministry of Natural Resources complete the necessary policy framework to support the *Endangered Species Act, 2007*, with the required public consultation.

For ministry comments, please see Appendix C.

3.3.3 Space for the Redside Dace

In clear, slow-flowing streams and ponds of southern Ontario live minnows with characteristic red stripes on their sides – the reddsides dace (*Clinostomus elongatus*).

Redsides dace are insect hunters. They need plants overhanging their streams, to ensure that prey insects will be available. They need clear water so they can see their prey and leap out of the water to catch when the time is right. Unfortunately, reddsides dace are classified as an endangered species in Ontario, largely due to the loss of habitat.

Redsides dace occur in the most highly populated and rapidly growing areas of the province. Urban development continues to be the major factor in reducing available habitat for the species, and reddsides dace have disappeared completely from some watersheds. Increased stream flow and decreased water quality have made streams less hospitable for the fish, due to higher volumes of runoff from new urban developments. The availability of prey insects has been reduced, due to the removal of streamside vegetation for reinforcement or construction of bridges. For example, major infrastructure upgrades, such as the Highway 407 expansion in the GTA, will require direct and indirect changes to reddsides dace streams.

A recovery strategy was finalized for the reddsides dace in February 2010. This document was the work of the reddsides dace recovery team, including both MNR staff and external experts. It provides information about the threats to the survival of the species, objectives for the protection and recovery of the species, the habitat needs of the species, and recommendations to the Minister of Natural Resources on the area that should be considered in developing a habitat regulation under the ESA. The recovery strategy's definition of habitat and its recommendation of what should be protected will be the most controversial elements of this strategy, because of the perceived restrictions on current and future building and land development projects.

As all government action will build on the recovery strategy, it is crucial that it is an unbiased, science-based document. Recovery teams should be able to speak and write freely without feeling they are being censored or under internal pressures to move in a particular direction by their own organizations. They have the critical job of describing what habitat is necessary for continued existence and recovery of a species – in the case of the reddsides dace, a difficult job as its habitat is in rapidly developing areas. MNR has taken a leadership role in drafting and finalizing the reddsides dace recovery strategy. Without formal, transparent policies to guide recovery teams, the ministry's high

level of involvement threatens to undermine the credibility of the recovery planning process.

Monitoring of redbide dace populations is necessary to provide baseline status data, and also to determine the success of ongoing recovery efforts. Some members of the recovery team have been denied research permits by MNR for redbide dace monitoring activities. In contrast, MNR issued a permit in 2010 allowing the destruction of redbide dace habitat and harm to the species in order to build a school, though mitigating measures in place are intended to provide benefit to the species over the long term. MNR also entered into agreements with various municipalities to allow harm to redbide dace and their habitat, related to the maintenance of municipal drains.

The government response to the redbide dace recovery strategy is required to be posted on the Environmental Registry by November 18, 2010. This response will outline what the Ontario government will do to protect and recover the redbide dace.

3.4 A Place to Call Home: Nine Species Receive Regulated Habitat Protection

Habitat loss and alteration is the leading threat to species at risk in Ontario. In February 2010, nine of Ontario's species at risk became the first to be accorded new regulated protection of their habitat:

- American badger (*Taxidea taxus*) – endangered
- barn owl (*Tyto alba*) – endangered
- eastern prairie fringed-orchid (*Platanthera leucophaea*) – endangered
- Engelmann's quillwort (*Isoetes engelmannii*) – endangered
- few-flowered club-rush (*Trichophorum planifolium*) – endangered
- Jefferson salamander (*Ambystoma jeffersonianum*) – threatened
- peregrine falcon (*Falco peregrinus*) – threatened
- western silvery aster (*Symphyotrichum sericeum*) – endangered
- wood turtle (*Glyptemys insculpta*) – endangered

By defining the habitats of these nine species within O. Reg. 242/08, the habitat protections provided under the *Endangered Species Act, 2007* (ESA) were triggered to take effect immediately, providing stronger protections for at least some of those species. This move was in partial fulfillment of the government's commitment to regulate the habitat of 10 identified species at risk by June 30, 2009.

Under the ESA, habitats of endangered and threatened species are defined and protected in one of two ways – as either "general habitat" or "regulated habitat." Currently, the protection of general habitat is only in force for the 42 species that were listed under the old law, and for any endangered or threatened species listed after the ESA came into force. For the 86 endangered and threatened species that were newly listed at the time the ESA came into force, general habitat protection will not take effect until June 30, 2013. By contrast, a regulated habitat will protect a species (regardless of when it was listed) as soon as the regulation takes effect.

The ESA provides a flexible approach to habitat protection that allows for a mix of uses within protected habitat; a habitat regulation for a species at risk does not equate to the complete protection of the area described. The government has discretion to use "flexibility tools" – permits and

agreements – that allow activities in protected habitat that would otherwise be prohibited. Activities defined by MNR as not being damaging or destructive to a species' regulated habitat will be allowed to continue.

Regulated Habitat for Nine Species

Some of the key aspects of the newly regulated habitats include:

- **Geographic restriction** – The regulated habitats of six of the nine species are described using specific geographic boundaries within Ontario, either by naming municipalities in which habitat occurs or by referencing maps filed in MNR's Species at Risk Branch.
- **Historical habitat** – The regulated habitats of five species include habitat that has been occupied by the species in the past, but is not necessarily currently occupied. Time limits range from as short as within the last 12 months to "any time in the past."
- **"Suitable" habitat** – For three species, the regulated habitat includes some areas described as "suitable" conditions for the species, but that may not be known to be currently inhabited by the species. For example, for Jefferson salamander, areas within specified geographic limits comprising "suitable foraging, dispersal, migration or hibernation conditions" and that "would provide suitable breeding conditions" are included.
- **Buffer zones** – Most of the regulated habitats include buffer zone(s) or corridors, in varying forms, around specific areas or habitat features. Examples include areas within five metres of an American badger den and the area within 25 metres of the base of a tree or other natural feature that is or was used as a nesting or roosting site by a barn owl.

Of the nine species now protected by regulated habitat, only two were previously protected under the general habitat provisions; the habitats of the remaining seven species were not protected at all and would not have received general habitat protection until 2013.

There can be advantages and disadvantages to having a species' habitat prescribed by regulation. On one hand, a habitat regulation can result in the protection of a significantly larger area than the general habitat. A habitat regulation may define historic and/or potential habitat as habitat for protection (e.g., historic nesting sites of barn owls). On the other hand, a habitat regulation may prescribe a smaller area than what would be protected by a species' general habitat. Knowledge gaps regarding the species' distribution, habitat requirements and ecological requirements pose a challenge to identifying areas in which a species does or can occur. If regulated habitat is limited geographically or otherwise without sufficient information, actual habitat of a species at risk may be left unprotected, while it would receive protection under the general habitat provisions. For this reason, it is critical to include a catch-all provision in habitat regulations to protect any newly discovered occurrences of a species.

ECO Comment

It is not ideal that habitat regulations are being finalized without recovery strategies or government response statements in place. While MNR faces a workload challenge, the ECO urges MNR to make every effort to ensure that recovery strategies are finalized and government response statements developed promptly. Habitat protection should be based on the best available information as intended by the ESA.

The ECO has previously expressed grave concern that MNR has the authority to effectively decrease the amount of a species' habitat that is to be protected. Fortunately, MNR does not appear to have done this in the case of these nine species. Regulated habitats closely mirror the recommendations found in the science-based recovery strategies for most of the nine species. Even those habitats that are limited geographically appear to have been based on the available scientific information about the species' distribution in Ontario. The ECO was disappointed, however, that MNR chose not to include provisions that would automatically protect the habitat of newly discovered occurrences of at-risk plants or animals.

Habitat regulations may not be as restrictive or protective as the public had previously believed since MNR considers some forestry and aggregate activities as non-destructive. To the ministry, regulated habitat is much like a "value" to be considered in forest management planning. However, many members of the public were operating under the understanding that there would be a blanket prohibition on any industrial activities within regulated habitat. Had it been clear to the public that MNR would release forestry guidelines relaxing habitat protection for several species right after passing the habitat regulation, the public debate might have been very different.

The ECO is seriously troubled by MNR's proposed interpretation of what constitutes damage or destruction of species-at-risk habitat. Only activities that impair or eliminate the "functionality" of habitat will be considered as destructive by the ministry. However, it may be difficult for managers or scientists to demonstrate or quantify habitat functionality, or lack thereof. This could lead to potential problems and possible legal conflicts in determining what activities may be allowable in protected habitat – a perilously slippery slope with potentially irreparable consequences.

For a more detailed review of this decision, please refer to Section 4.20 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

3.4.1 Much Ado about Wood Turtles

No other aspect of the proposed habitat regulation received more attention than the provisions related to the wood turtle (*Glyptemys insculpta*). Wood turtles are brownish-grey, medium-sized turtles classified as endangered in Ontario. They use both aquatic and terrestrial habitat, including rivers, streams, bogs, swamps, wet meadows, woods, upland fields and farmland. Significant threats to wood turtles are habitat loss, road mortality and the pet trade industry.

The proposed Regulated Habitat for the wood turtle consisted of both aquatic and terrestrial areas used by wood turtles or adjacent to areas used by wood turtles. Larger areas of habitat were defined for wood turtles in northern municipalities than in southern locations.

The defined habitat included in the final regulation for both northern and southern municipalities differs significantly from what was proposed. Specifically, the buffer zones in aquatic areas (i.e., below the high water mark) increased tenfold for southern populations (from 200 m to 2,000 m), and even more for northern populations (from 500 m to 6,000 m). Buffers around nesting sites increased from 30 m to 300 m for both northern and southern populations.

The protection for this species drew ire from industry associations and private landowners in some affected northern rural municipalities, who warned in the media that this "overbearing protection of wood turtle habitat" is "penalizing an already hard-pressed forest industry," abrogates private landowner rights and "could create massive restrictions for planning development" in affected communities. While acknowledging that certain activities may be approved to continue within wood turtle habitat, opponents argued that a permitting system for operating in wood turtle habitat is an "additional layer of red tape the [forestry] industry just can't afford right now." Further, many opponents argued that poaching for the illegal pet trade – not habitat loss – is the greater threat to wood turtles.

Northern opponents stated that MNR should have consulted "with the people whose livelihoods and way of life would be most affected" and were critical of MNR for holding only one consultation session in Toronto. They stated the Ontario government is "falling victim more and more to pressure groups from urban areas" and that "we cannot let a southern Ontario politically motivated decision endanger our livelihood."

In November 2009, Renfrew County passed a resolution that outlined its position that "the wood turtle habitat regulation should be immediately withdrawn prior to filing and returned to Cabinet for revision, accompanied by a comprehensive socio-economic impact assessment." Other local municipalities soon followed suit and backed this resolution.

Groups in support of the habitat regulations said that the wood turtle was being used as a scapegoat for the "real" problems facing the forestry industry, such as "the strong Canadian dollar, the falling demand for products like pulp, newsprint and lumber, and highly efficient, low-cost global competitors." The director of Ontario Nature noted in a newspaper editorial: "Given the growing consumer demand for green wood products, why is the [forestry industry] doggedly pitting economy against protection, north against south, rural folk against city dwellers? ... It is time ... to stop blaming endangered species for an economic crisis."

While it is commendable that MNR held province-wide open-houses *after* the regulation was filed to explain the regulation and to provide advice to affected landowners, it would have been more helpful and more transparent to have held similar open houses beforehand. This might also have alleviated some of the concerns of local landowners who may not have fully understood the implications (or likelihood) of having habitat on their properties, or the availability of the flexibility tools to permit certain activities on prescribed habitat.

However, much of this heated debate appears to be moot due to MNR's proposed guidance for forestry in wood turtle habitat. Forestry activities will still proceed in regulated wood turtle habitat, with some restrictions. The ECO questions MNR's rationale in releasing this guidance document for wood turtle habitat only *after* the habitat regulation passed. The polarized debate would have been eased if the guidelines had been available for comment concurrent with the habitat regulations.

3.5 Mixed Results: Management of Caribou, Moose, Elk and Deer

From the majestic woodland caribou that roam the boreal forest, to the lumbering moose that marvel motorists en route to cottage country, Ontario's native cervid species – caribou, moose, American elk and white-tailed deer – are symbols of the wilderness. They are also important components of the province's biodiversity and integral parts of functioning ecosystems.

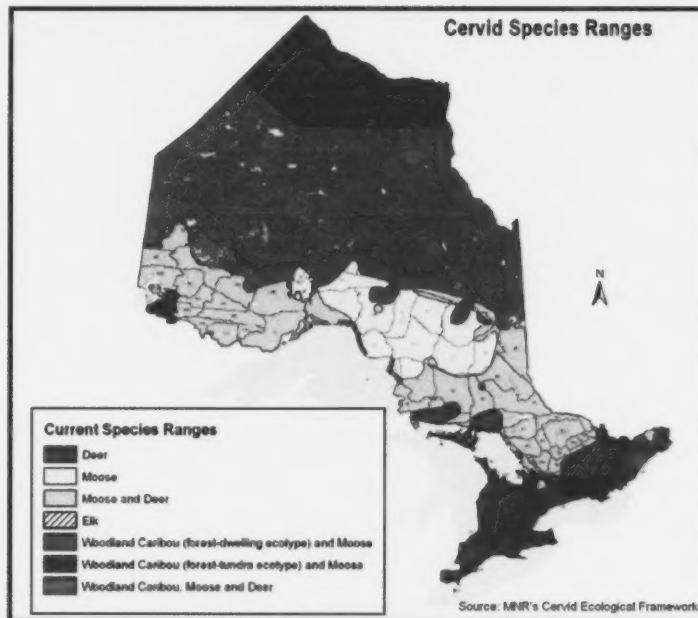
Cervid is a scientific term used to denote members of the deer family: hoofed animals that bear antlers. Despite any similarities in appearance, Ontario's cervids differ in their biology, range, habitat needs, and population status. Each species, therefore, has its own distinct management program and objectives. Moose and white-tailed deer management programs have focused on controlling populations through hunting and habitat management, while management programs for Ontario's elk and threatened woodland caribou have focused on population restoration and recovery, respectively. Although cervid ranges overlap throughout most of Ontario and different species may require conflicting habitat and management objectives, the Ministry of Natural Resources (MNR) has historically not considered the effects on one species when managing another.

The Cervid Ecological Framework

In November 2009, MNR released a Cervid Ecological Framework (the "framework") to strategically address cervid management at the landscape and ecological level. The framework provides strategic policy guidance to consolidate and integrate Ontario's species-specific cervid policies and programs, while considering the broader ecosystems and multiple stressors (e.g., disease, climate change and hunting) Ontario's cervids share. The framework guides MNR's decisions on where and how to manage populations of different cervid species in relation to each other, considering economic, social and ecological factors, including species resilience, reproductive potential and conservation status.

The Cervid Ecological Framework divides the province into nine Cervid Ecological Zones based on species ranges, overall management intent, habitat and climate. The framework provides broad management guidance for each zone to assist in setting local population and habitat objectives at the Wildlife Management Unit (WMU) level. (Ontario is divided into 95 areas called WMUs, which MNR uses to regulate harvest levels and hunting seasons of many species.)





As an illustration of the framework's management guidance, for Zone A (a large area that covers most of Ontario north of Lake Nipigon), the direction is to:

- minimize impacts and maintain/restore the woodland caribou population;
- maintain a low-density population of moose;
- manage for a low-density population of white-tailed deer; and
- emphasize caribou habitat management through land and resource planning processes, such as Crown land use plans, municipal land use plans, Forest Management Plans and provincial park plans.

The ECO applauds MNR for moving toward a cervid management framework that takes an integrated, adaptive and landscape-level approach. Cervid management requires the consideration of many factors, including the population sizes, habitat requirements of their competitors and predators. In some areas of the province, populations of particular wildlife species, such as moose in northern Ontario and deer in southern Ontario, may merit suppression because their unnaturally high numbers can have significant effects on other species. The ECO expects that the Cervid Ecological Framework will be a useful tool for setting the management agenda for Ontario's cervids.

Nevertheless, the ECO believes it would be useful if the framework explained the ecological benefits and risks associated with the management guidance for each zone. The ECO notes that MNR clearly presented the advantages and disadvantages of different management options in its analysis of potential calf harvest systems as part of the moose program review. Likewise, it would be informative if MNR explained how the Cervid Ecological Zone boundaries had been determined.

The framework states that "an adaptive management approach will be applied to ensure that policy guidance is continually evaluated and improved based on new information" and that the framework "will be reviewed periodically as needed." While the ECO agrees that MNR should take an adaptive

approach that systematically uses new information to modify the framework and species-specific policies, the ECO believes that specifying a minimum review period, such as every five years, would codify this commitment and instil public confidence that new knowledge would be incorporated at appropriate stages of program implementation using constructive time scales.

While the framework contains broad direction on how to integrate the management of Ontario's four cervid species, MNR states that details on management direction are contained within species-specific policies and programs, such as Ontario's Woodland Caribou Conservation Plan and Moose Management Policy. The implementation and success of the framework, therefore, depends on the content and execution of these species-specific management programs. This year, the Ontario government released a number of policies related to the management of specific cervid species.

Recent Environmental Registry Notices Related to Cervid Management

Environmental Registry #	Notice Title	Notice Type
010-5395	Cervid Ecological Framework	Policy decision posted Nov. 2, 2009
010-4421	Development of MNR policy to guide Woodland Caribou conservation and recovery efforts in Ontario	Policy decision posted Oct. 13, 2009
010-5396	Ontario's Moose Management Policy and supporting guidance documents: Moose Population Objectives Setting Guidelines and Moose Harvest Management Guidelines	Policy decision posted Nov. 2, 2009
010-5965	Ontario Moose Program Review Phase 2: Consultation on Concepts for Enhancing the Resident Tag Draw System	Policy proposal posted Feb. 24, 2009
010-8381	Ontario's Elk Management Plan	Policy proposal posted Nov. 23, 2009
010-5648	Amendments to Ontario Regulation 670/98 (Open Seasons – Wildlife) under the <i>Fish and Wildlife Conservation Act, 1997</i> to Create a New Resident January Deer Archery Hunting Season in Specific Wildlife Management Units in South-western Ontario	Regulation decision posted April 1, 2009
010-5338	Amendments to Ontario Regulation 670/98 (Open Seasons – Wildlife) under the <i>Fish and Wildlife Conservation Act, 1997</i> to Create New and Streamline Existing Deer and Moose Hunting Seasons in Specific Wildlife Management Units	Regulation decision posted April 1, 2009

Caribou

In October 2009, MNR released its finalized Ontario's Woodland Caribou Conservation Plan. The forest-dwelling boreal population of woodland caribou is listed as a threatened species under the province's *Endangered Species Act, 2007* (ESA). This conservation plan outlines the measures the Ontario government intends to take to protect and recover this species at risk and its habitat.

It is estimated that 20,000 woodland caribou remain in Ontario, of which approximately one-quarter inhabit the boreal forest and are described as the "forest-dwelling" population. Although MNR speculates that about 3,000 forest-dwelling woodland caribou remain in the area set aside for commercial forestry (i.e., south of roughly 51°N), only crude estimates of woodland caribou numbers in Ontario are available, partially due to the lack of monitoring. The majority of Ontario's woodland caribou are part of the "forest-tundra" population; this population is currently under assessment by the Committee on the Status of Species at Risk in Ontario (COSSARO) to determine if it too should be identified as at-risk.

The forest-dwelling boreal population of woodland caribou has lost approximately half its range in the province since the end of the 19th century and is now found mainly north of Hearst and Dryden. This massive range contraction has resulted in the loss of approximately 35,000 km² of habitat per decade in Ontario over the last century, equating to a northward range recession of roughly 34 km per decade. A driving cause of this range recession is the loss, fragmentation, and alteration of forested habitat caused by commercial forestry, land clearing, and linear disturbances such as road building. Other threats include the effects of climate change, the alteration of natural forest fire cycles, changes to predator-prey dynamics, and disease transmission from other ungulates (hoofed animals).

The Ontario government has struggled for decades with how to deal with woodland caribou. It has avoided making the tough policy choices that would provide a basis for coherent actions and practical steps to protect and recover this threatened species and its habitat. Released in 2009, Ontario's Woodland Caribou Conservation Plan is meant to articulate what actions the Ontario government as a whole will take to at least safeguard this species at risk and, ideally, to strive to de-list the population once it is no longer in a state of jeopardy.



Photo: MNR

Ontario's Woodland Caribou Conservation Plan focuses almost exclusively on mitigating, rather than eliminating, threats to this species at risk. It provides little reassurance that woodland caribou will not be extirpated from Ontario by the end of the 21st century. It fails to take a precautionary approach, all but ignoring why the forest-dwelling population of woodland caribou became at-risk. Ignoring history is the antithesis of caution.

MNR touts this conservation plan as "science-based." The central pervading assumptions of the conservation plan are that development can be tweaked to mitigate disturbances and, at some point in the future, woodland caribou will re-occupy habitat that has been affected by development. In effect, this approach is a reiteration of the very *status quo* that has caused the northward range recession of woodland caribou.

The conservation plan's emphasis on testing whether woodland caribou will re-occupy logged habitat is of great concern. While the Ontario Woodland Caribou Science Review Panel, an arm's length panel appointed by MNR, did generally support research that would test this hypothesis, it cautioned that "resource extraction should never be justified under the guise of research." Testing this hypothesis in the parts of the Area of the Undertaking (AOU) that have already been logged is starkly different from how MNR should approach the management of intact forest. If commercial forestry

is to be approved north of the current cut-line, as envisioned by Bill 191 (*Far North Act, 2010*), MNR's approach contains an inordinate amount of risk and gambles with woodland caribou habitat. This risk is underscored by the approximate 20-year time lag between forest harvesting and range recession.

It is inexcusable that MNR has failed to develop and implement a monitoring program to-date for woodland caribou. Without such monitoring, it is impossible to detect failure and determine whether a program is achieving its objectives. In this case, failure is the continued loss of woodland caribou and their habitat. The ECO first called for a monitoring program in our 2001/2002 Annual Report, calling MNR's approach to forestry a "grand experiment" and that properly understanding the "impacts of forestry operations on the boreal population of woodland caribou is dependent on effective monitoring." In our 2006/2007 Annual Report, the ECO noted that MNR's provincial wildlife monitoring program fails to include woodland caribou as a species to be actively monitored despite the well-accepted fact that it is an indicator species of forest sustainability. Moreover, members of the public filed an EBR application in 2006 requesting a monitoring program for woodland caribou to which MNR has yet to respond.

Little or no direction is provided in the conservation plan about if, when or how woodland caribou habitat will actually be set aside and protected. The Ontario government had committed to passing a species-specific habitat regulation under the ESA for the forest-dwelling population of woodland caribou by June 2009. This commitment was not fulfilled. Indeed, the conservation plan appears to place little value or urgency on permanently protecting habitat for this threatened species. Given the conservation plan's overriding assumption that development can proceed under most conditions, the forthcoming habitat regulation will likely be of limited conservation value for protecting woodland caribou habitat.

The conservation plan also does not contain any interim measures to protect woodland caribou and their habitat until population assessments, range assessments and disturbance thresholds have been completed. Given the large areas that this species requires to survive, it is disappointing that the conservation plan contained little discussion about how the Premier's commitment to protect to at least 225,000 km² of the Far North would align with woodland caribou conservation.

The conservation plan causes arguably even greater uncertainty for all concerned stakeholders and, more importantly, for the survival of woodland caribou. It frequently uses ambiguous and vague language, without any supporting explanation of key terms. Moreover, the conservation plan off-loads many key policy decisions to the future, making it more like a "faith-based" approach rather than a "science-based" approach. As a result, stakeholders can only hope that key details will be worked out. It also reduces many important concepts to the level of jargon, such as the precautionary principle and ecosystem-based management.

The conservation plan fails to adequately describe who is responsible for what actions. It gives the strong impression that ministries outside of MNR have little or no concrete responsibilities. For example, the conservation plan's use of cumulative impact assessment as a decision-making tool does not specify who will do the assessment, how it would be conducted transparently, which ministries it applies to, or how existing approvals processes would be amended to reflect this new direction. It is also silent about how such a decision-making framework will be applied when no approvals processes exist *per se*, such as with mineral staking under the *Mining Act*. Therefore, the assumption must be that it will not apply.

The conservation plan states that its success – the protection and recovery of woodland caribou – will require “a long-term commitment to an adaptive management approach.” However, it also states that “not all recovery actions will be funded and implemented simultaneously.” While it is reasonable to focus initially on high priority actions, such as addressing local population ranges along the southern edge of continuous distribution, it is critical that the Ontario government provides the necessary resources to support all aspects of protecting and recovering this species at risk in the long-term. The science panel cautioned that “monitoring is extremely vulnerable to cuts in funding and the exigencies of new government priorities. Arbitrary changes in support can seriously impair, or ruin, the stream of management information.”

Many aspects of the conservation plan lack timelines. This problem is compounded by the historical failure of MNR to meet many self-imposed timelines related to actions for woodland caribou. Reference is made to the finalization of an “implementation plan” by April 2010, which might fill in some details that are lacking in the conservation plan. However, as with other caribou-related deadlines, this plan was not released on time. MNR’s repeated pattern of putting off key decisions to future dates is not reassuring.

For more information about this decision, please see the Section 4.16 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

Moose Management



In 2007, MNR announced that it was reviewing Ontario’s moose management program in two parts: Phase 1 would focus on enhancing Ontario’s moose management program, and Phase 2 would focus on improving Ontario’s system for allocating tags to resident moose hunters. MNR completed Phase 1, which was initiated in May 2008, when it released its finalized Moose Management Policy (the “policy”) in November 2009. This policy replaces Ontario’s 1980 Moose Management Policy. As of 2007, Ontario’s moose population was estimated to be approximately 109,000 animals.

The policy’s first objective is to manage moose populations sustainably according to overarching direction in the Cervid Ecological Framework. Strategies to support this objective include: developing population objectives for each Cervid Ecological

Zone; understanding the potential effects of climate change on moose; assessing and monitoring population status; and collecting and managing harvest-related information.

The policy’s second objective is to provide an optimal mix of benefits from the moose population through harvest allocation and the management of moose-related activities. Strategies to support this objective include: apportioning the allocation and harvest of moose in relation to the available supply; providing a reasonable and equitable distribution of opportunities to harvest moose; and reducing human-moose conflicts.

The policy is complemented by two supporting guidance documents. First, the Moose Population Objectives Setting Guidelines provide direction for co-ordinating the development of moose population objectives within the broader context of the Cervid Ecological Framework. Second, the Moose Harvest Management Guidelines provide moose managers with a variety of potential harvest management options to achieve moose population objectives as set out for Cervid Ecological Zones. These options include limiting what type of moose can be hunted (bull, cow or calf), shortening or shifting moose hunting seasons, and managing where moose can be hunted. MNR states that the implementation of strategies in these guidelines may be subject to further consultation and posting on the Environmental Registry.

MNR is to be commended for revisiting its 30-year-old moose management policy to reflect the ministry's new landscape and ecologically-based approach to wildlife management. Furthermore, the ECO compliments MNR for producing such thoughtful guidelines for setting harvest management and population objectives. These documents demonstrate a considerable amount of forethought and they, with the accompanying policy, will be valuable in implementing the overarching guidance provided by the Cervid Ecological Framework. Nevertheless, like the Caribou Conservation Plan, the Moose Management Policy lacks timelines and specifics on strategy implementation and responsibility. The ECO expects MNR to develop strategy specifics through public, Aboriginal and stakeholder consultations.

The effectiveness of a harvest control system depends on a reasonably accurate assessment of how many moose are killed each year. Not surprisingly, repeated studies have recommended mandatory reporting of moose kills so that moose managers can accurately assess annual harvest and quickly adjust harvest quotas. Despite these recommendations and the directive in the 1980 Moose Management Policy to phase in a mandatory registration and reporting system, currently only hunters in five WMUs and hunting guides and operators in the tourist industry are required to report their moose kills to MNR. To ensure that moose managers have sufficient data on harvest-related mortalities, MNR should require all moose hunters to report their harvest annually.

MNR should be commended for the extensive public consultation it has conducted for the Moose Program Review. In addition to meeting with almost 600 participants at over 20 public meetings focused on Phase 1 of the review, MNR met with over 4,000 moose hunters at more than 25 public consultations as part of Phase 2. The ECO looks forward to MNR's continued use of the Environmental Registry and public consultation when implementing strategies that come out of the moose management policy and its supporting guidelines.

Elk Management

Ontario's native elk populations were extirpated from the province in the late 1800s because of overharvesting and habitat change associated with human settlement. As a result of restoration efforts taken by MNR, partners and volunteers in the late 1990s, approximately 600 elk now inhabit several areas across Ontario. While some populations have shown declines since this reintroduction, others have shown steady growth. The ECO applauds MNR for its progress in restoring this extirpated species to Ontario.

In November 2009, MNR released a draft Elk Management Plan, which proposes to lead Ontario's elk management from a population restoration program to a "sustainable management" program within

the context of the Cervid Ecological Framework. This includes considering the implementation of an elk harvest to "achieve ecological and socio-economic elk management objectives."

Some farmers have complained that MNR needs to be more aggressive in deterring elk from damaging their crops, fences and property. The majority of commenters on the Cervid Ecological Framework were concerned that the guidance for several Cervid Ecological Zones did not include managing conflicts between humans and elk. In response to this concern, MNR revised the framework to include guidance to "manage human-elk conflicts where necessary" in all zones containing elk. Moreover, one strategy of the draft Elk Management Plan is to "encourage preventative measures to reduce conflicts between elk and the agricultural community."

White-tailed Deer Management

While MNR has a conservation plan for caribou, a management policy for moose and a draft management plan for elk, no management plan exists for Ontario's white-tailed deer. Instead deer management in Ontario is applied almost exclusively through hunting regulations and the manipulation of harvest levels. The management of deer habitat is considered through forest management processes.

Since 1980, when MNR started controlling the harvest of adult female white-tailed deer, deer populations in most of southern Ontario have increased substantially. Ontario's current deer population is estimated to be approximately 450,000 animals. An increase in deer abundance has the potential to increase wildlife-vehicle collisions, damage to agricultural lands, and the spread of transmittable diseases. In response, MNR has created additional and longer deer hunting seasons and allowed individual hunters to take several deer. Furthermore, in recent years MNR has established an annual deer cull in several provincial parks, a measure the ECO noted in our 2007/2008 Annual Report may be related to the virtual absence of deer predators, such as eastern wolves and cougars, in southern Ontario. The policy void regarding white-tailed deer management is particularly illustrated by the lack of a system-wide approach to culling deer in protected areas.

ECO Comment

From the restoration of the extirpated elk to the population control of overabundant white-tailed deer, the management of each Ontario cervid species involves unique challenges. Current population sizes and ranges of cervids have changed substantially since pre-colonization times. This radical change to Ontario's ecology is the result of habitat loss, overharvesting and even population management. Historically, the intent of managing cervid species was to maximize harvesting and hunting opportunities. Each cervid was managed in isolation, with little regard for other wildlife, including other cervids, that may affect habitat and food availability.

The ECO applauds MNR for developing the Cervid Ecological Framework to consider cervid management on a landscape scale. The ECO believes the framework is a step in the right direction towards integrative and adaptive management. The success of the framework, however, will depend on how its broad guidance is included in species-specific policies and is implemented on the ground. Unfortunately, while policies and plans, like Ontario's Caribou Conservation Plan, are often littered with ecological buzzwords and foundational concepts, such as the precautionary principle and adaptive management, they provide little clarity as to how these concepts will actually be put into

action. MNR must do more than pay lip service to the important conservation approaches necessary to effectively manage each cervid species. This will require a departure from the status quo and require an unwavering commitment to long-term monitoring and program implementation. Without monitoring, failure cannot be detected.

The ECO is pleased that MNR recognizes the intrinsic value of Ontario's cervids and their ecological importance as part of Ontario's native biodiversity. While these species have social, cultural and economic value to the people of Ontario, MNR's priority must be to ensure ecological integrity, which includes healthy cervid populations that fulfil their natural role within the ecosystem. It is commendable that MNR's guidelines for setting moose population objectives prioritize ecological considerations over socio-economic ones.

The ECO notes, however, that MNR's prioritization of ecological integrity must extend to cases where cervid management conflicts with resource extraction and industrial activities. The ECO is concerned with MNR's decision to use the forest management planning process as its primary mechanism for addressing cervid habitat management on Crown lands within the Area of the Undertaking. While species habitat management is an important consideration of forest management, it is clearly not its primary purpose. Not surprisingly, research by MNR staff suggests that Ontario's current forest harvesting practices, which are based on coarse-level forest resource inventories, do not fulfil the intended goals for the provision of wildlife habitat.

Recommendation 4

The ECO recommends that the Ministry of Natural Resources ensure that caribou habitat be a prime consideration in how and where it plans to protect 50 per cent of lands in the Far North.

3.6 Managing Black Bears: Thinking Beyond Harvest?

In June 2009, the Ministry of Natural Resources (MNR) finalized its Framework for Enhanced Black Bear Management in Ontario (the "framework") with a goal to "ensure sustainable black bear populations across the landscape and the ecosystems on which they rely for the continuous provision of ecological, cultural, and optimal economic and social benefits for the people of Ontario." According to MNR, the new framework will consolidate and refine current black bear management in the province, as well as provide guidance to future decision-making. The document includes a set of guiding principles, challenges and objectives for black bear management and research.

There are between 400,000 and 750,000 black bears (*Ursus americanus*) in North America, and MNR estimates 75,000 to 100,000 live in Ontario. Black bears are intrinsically valuable to Ontarians: as an icon of our wilderness heritage, as a symbol in Aboriginal cultural traditions, and as an economic and recreational resource (see Table 1). They are also an important component of Ontario's ecosystems: black bears can be considered a keystone and indicator species, predators of juvenile deer and moose, and potentially important competitors for other species.

Black bears have one of the lowest rates of reproduction of any land mammal in North America. Female bears have a very late age of reproductive maturity, having their first litter when they are five

to seven years old. Black bears also have low fecundity, with only two to three cubs per litter, and reproduce once every two years at maximum. As a result, the consequences of mismanagement are high: once a bear population is overharvested, it may take a decade or more to recover. As noted previously by the Auditor General of Ontario, harvests of black bears in some areas of Ontario may be occurring at unsustainable levels.

Black bears have large home ranges. In Ontario, the range of adult females averages 15 to 25 km², while male ranges can be up to 10 times this size. They also migrate long distances outside of their regular ranges for seasonal foods, such as sucker spawning runs in the spring and blueberry patches in the summer. Black bear habitat is often limited by human development, fragmented and degraded by roads and construction. Black bears are susceptible to being injured or killed by vehicles as they forage along roadsides and train tracks.

Table 1
A History of Black Bear Management in Ontario.

Year	Approximate number of harvested bears	Event
1961	800	Hunting season established for black bears
1973	Unavailable*	Spring and fall hunts separated
1980	5000	Bear licences separated from those for deer, moose and wolves
1987	7500	First black bear management policy introduced
1989	5800	Bear Management Areas established
1996	6000	One bear tag per hunter, per year
1999	4100	Cancellation of the spring hunt; fall hunt expanded
2003	5400	Nuisance Bear Review Committee Report
2004	5300	Bear Wise program established
2008	5200	Framework policy proposal

* MNR does not have black bear hunting harvest data prior to 1980.

Population Identification and Monitoring

The framework does not introduce any initiatives for harvest-related data collection. Reporting black bear kills has been mandatory for resident hunters in Ontario since 2004 and for non-resident hunters since 1987. Mandatory hunter surveys provide MNR with important population monitoring information, such as the sex and Wildlife Management Unit (WMU) location of the harvested bear. However, in 2008 only 64 per cent of resident hunters returned the mandatory survey; while non-resident hunters had a 99 per cent response rate.

The Nuisance Bear Review Committee report in 2004 suggested the mandatory collection of premolars from all bears harvested, which would allow MNR to determine the age structure of the population. Currently, hunters only provide premolars on a voluntary basis, and MNR had a 44 per cent return rate of molars from hunters in 2008. The framework states MNR will "evaluate the need for additional harvest data such as additional age (tooth) data from harvested bears."

While harvest mortality data can be useful, it is often skewed to animals targeted for hunting, and does not account for all known bear mortality in the province. It is, therefore, important for any harvest management plan to take into account harvest-independent data.

Requirements for non-hunting mortality data have not been changed in the framework. Although reporting is required for bear mortalities on private land (e.g., in defence of property), reporting rates are low and an unknown number of additional bear kills go unreported every year. The framework aims to "enhance" reporting of non-hunting black bear mortality and to "raise public awareness of the need to report bears killed in protection of property," but fails to outline specific actions or further reporting requirements. Currently, as has been required since 1998, only the kill, date and location need to be reported for bears killed in defence of property. Age, sex and other data parameters need not be reported.



Photo: MNR

A Black Bear Population Index Network has collected data annually since the late 1980s, and made permanent by MNR across the province in 1997. This index calculates the incidence of black bears that "hit" baited stations, giving an approximation of how many bears may be present in a given region. However, this population estimate must be used with caution, as it does not account for multiple bears hitting the same station, or behavioural effects. An updated and more precise method of black bear population monitoring was initiated in 2004, after a recommendation for population monitoring improvements by the Nuisance Bear Review Committee. This method, capture-recapture DNA fingerprinting of bear fur, provides a much clearer understanding of the true abundance level of the species within each WMU. Both programs are still in place, although dedicated annual funding for the DNA fingerprinting program has not been secured. It is unclear whether the framework tactic to "Establish and maintain a network of population monitoring stations across black bear range to monitor population trends" will be in addition to the existing monitoring efforts, or characterizes those in place.

Habitat Management

Black bear habitat was not monitored or defined in previous policy; in contrast, the updated framework dedicates one of its six objectives specifically to the management and assessment of black bear habitat.

The framework contains an explicit requirement to "ensure an adequate supply of black bear habitat." The strategy to "develop habitat assessment approaches to aid in assessing ecological capability for black bears," has associated tactics to "assess the need to expand" research, including black bear food surveys and habitat suitability modelling.

A recent study has shown Ontario's current provincial land classification and forestry resource inventory maps do not provide enough detail to guide habitat management for black bears. Additional field research will be necessary to ensure that the specific food and habitat needs of black bears will be met.

Harvest and Socio-Economics

Black bear hunting is central to the management approach presented in the framework. MNR states, "a commitment has been made to develop an enhanced bear harvest management program... to ensure the sustainability of black bear populations and the continuation and/or enhancement of bear hunting opportunities and associated economic benefits."

While the previous policy explicitly stated the target harvest guidelines as five to eight per cent of the total population, the new framework does not identify any guidelines or maximum yield. There is no explicit mention of a re-evaluation of the current "sustainable" harvest density guideline of 10 per cent for the province, as noted in MNR's accompanying background document on black bears. Moreover, total population estimates for Ontario's black bears have been extrapolated from a single long-term study (1969-1983) from the Great Lakes-St. Lawrence ecozone, and per cent harvest guidelines were based on this approximation.

While the Nuisance Bear Review Committee report suggested keeping black bear management guidelines at the WMU level, there are several alternative levels discussed in the framework. These include "landscape-level" or "ecological zones," although boundaries for these areas were not described nor were maps included. As a result, the framework is unclear on how "appropriate scales" for management will be determined.

ECO Comment

The ECO is pleased that MNR undertook a review of black bear management in the province. Ecologically-based population monitoring, independent of harvest data, should be central to any wildlife management framework. As the ECO noted in 2007/2008, in regards to MNR's approach to mammalian predator management, "concerted attempts should be made to acquire the best possible ecological knowledge to inform decision-making." Data collection and research are critical components of understanding black bear populations and their long-term ecological sustainability in Ontario.

The ECO is concerned, however, that rather than reflecting a "more enlightened ecological approach" to black bear management, this framework explicitly outlines that MNR has made the commitment to continue and enhance recreational bear hunting opportunities. The ECO notes that in this document, "sustainability" is a term only used in relation to the continued harvest of the species.

While the previous black bear policy explicitly established harvest guidelines of 5 to 8 per cent of the total population, the new framework is vague on harvesting goals. Harvesting guidelines have not been re-evaluated within the framework, and only "ongoing monitoring" and "evaluating" are action items to determine whether harvest needs to be changed. MNR states in the black bear background document that "the provincial sustainable harvest rate is 10% of the population." It is unclear, however, how this rate was determined and what the scientific basis is for this statement. If "ecologically-based" harvesting targets will be used, as outlined in the framework, ecological zones must first be defined or determined. MNR has indicated that "ecological zones" have been identified; these zones group WMUs together based on ecological similarities, and assist in determining population objectives for the region. However, as of June 2010, the ecological zones have not been made publicly available.

The ECO commends MNR for explicitly including habitat monitoring and maintenance as a guideline, as was suggested in the ECO's 2007/2008 Annual Report. This guideline puts habitat in its proper place as a critical part of managing a species for its long-term survival, as habitat is the leading cause of species endangerment in Ontario.

However, the ECO is concerned the framework will not improve upon the *status quo*, as much of it is too vague to be action-oriented. The framework's calls to "assess the need for further long-term research," "evaluate the need for additional harvest data," and "consider need for research and monitoring initiatives" do not amount to a clear action agenda for the ministry. Research needs and gaps have been long identified, by the ECO, MNR's own Nuisance Bear Review Committee, the Auditor General of Ontario and other reports. The ECO does not believe that MNR's noncommittal language in the framework constitutes an "enhanced" approach to bear management.



Photo: C. Williamson

No timelines for completion or review process are in place to outline the timing and effectiveness of this framework. As suggested by the Nuisance Bear Review Committee, a five-year review of the framework could provide a guidepost for implementation, as well as an opportunity for public comment and adaptive management to improve the program's efficacy.

The ECO is troubled by the fact that MNR altered the framework's guiding principles. A critical conceptual change between draft and final versions of the framework was to remove the proposed reference to the intrinsic value of black bears to the people of Ontario. The first guiding principle now ignores the intrinsic value of black bears to Ontarians and focuses only on socio-economic value, resulting from their "use" as a resource. This does not reflect the spirit of the *Environmental Bill of Rights*, 1993, which states "the people of Ontario recognize the inherent value of the natural environment."

Although the ECO notes some technological improvements by MNR in population monitoring and modelling for black bears, the ECO is unsure how the framework will improve on-the-ground management from previous methods. Without understanding how the framework's vague strategies and tactics will be implemented, it is unclear how effective or "enhanced" management will be. As noted in the final section of the framework, implementation will require discussions and consultation. The ECO suggests these discussions should be balanced, focused on the ecological sustainability of the species, and open to public comment and review.

For more information about this decision, please see Section 4.17 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

3.7 Forest Management: Conserving Biodiversity at the Stand and Site Scale

Ontario's forests play an important role in world ecosystems. Our province is also home to about 17 per cent of Canada's boreal forest, and 2.5 per cent of the global boreal forest. Many of the province's 30,000 known species live within forested areas and every year millions of the world's migratory birds use Ontario's forests.

Approximately 80 per cent of the province's forests are Crown lands managed by the provincial government. Over 35 per cent of this area is within the Area of the Undertaking (AOU), the region of Ontario where commercial timber harvesting actively occurs. The Ministry of Natural Resources (MNR) is responsible for sustainable forest management and the conservation of biodiversity, while the Ministry of Northern Development, Mines and Forestry (MNDMF) is responsible for the business and economic aspects of forestry.

Before forests are commercially harvested in Ontario, a forest management plan (FMP) must be developed and approved by MNR. Plan development is guided by four regulated MNR manuals. By the late 1990s, a collection of over 30 forestry management guides provided additional direction on dealing with finer scale, specific issues. In 1999, the ministry initiated a review of the province's forestry guides. MNR decided to consolidate down to five guides, including the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (the "Stand and Site Guide" or "guide").

The purpose of the guide is to provide direction on planning and conducting forest operations at the stand and site level (i.e., tens of square metres to hundreds of square kilometres) so that "forest biodiversity will be conserved and Ontario's forests will remain healthy and sustainable."

Major issues addressed through direction in the guide include:

- stand composition, pattern and structure to allow for a variety of wildlife habitats;
- ecological function of aquatic systems and shoreline riparian zones;
- forestry activities in the ranges of particular forest species, such as moose, deer, and birds; and
- forestry activities in habitats of species at risk.

The Stand and Site Guide also includes direction for soil and water conservation, salvage and biofibre harvest, and road and water crossing construction. MNR staff are required to follow direction in the Stand and Site Guide when preparing 10-year FMPs that come into effect on or after April 1, 2011.

The Stand and Site Guide: Key Issues

Residual Forest

Residual forest is retained during forestry operations to provide wildlife habitat, particularly for species that inhabit older forest. However, the Stand and Site Guide's definition for residual only requires a stand to be 35 years or older. The average age of forests in Ontario's AOU in 2006 was 82 years old. MNR's background and rationale document for the Stand and Site Guide suggests that residual forest will approximate older forests in its ecological function. However, the ministry admitted, "the response

of wildlife communities to this direction has not been rigorously tested" and has indicated this will be a research priority. Therefore, the implication of this direction is currently unclear.

Wildlife Trees

MNR defines wildlife trees as "trees retained during forest operations with the intent to provide structure and features beneficial to wildlife in general, and for specific species, groups or communities." Specific trees may be set aside for a particular purpose; for example, cavity trees provide habitat for bird and other animal species. While previous policy focused on the value of stubs to emulate forests after natural disturbances, the new guide is more explicit in recognizing the value of different types of wildlife trees, allowing protection of specific habitat and food sources. Nevertheless, the overall numbers of wildlife trees required for retention remain similar.

Shoreline Harvesting

The Stand and Site Guide outlines a conceptual shift in terms of shoreline cutting. In contrast to previous policy, direction in this guide not only permits, but also explicitly encourages, management in shoreline areas (Table 1). The ministry's overarching rationale for the changes to shoreline harvest – from restriction to encouragement – relates to perceived ecological benefits. MNR notes where scientific evidence was not available that some components of shoreline AOC direction were "based largely on expert advice or inductive inference." Harvesting will also be allowable in and around designated Provincially Significant Wetlands (PSWs) when MNR determines that forestry operations will not result in the loss of significant ecological functions or features.

Previous research has shown that shoreline cutting can be detrimental to aquatic and riparian systems. Much of this concern is related to increased runoff: increased concentrations of nutrients and sediments flowing into the water body can impair water quality and affect fish habitat and other aquatic biota. Although MNR has identified these biodiversity-related issues as key uncertainties in Stand and Site Guide direction, the ministry does not consider them of high priority for monitoring; MNR maintains that current research addresses these concerns. MNR will investigate how new direction emulates natural disturbances for some catchment-scale hydrological functions, such as increased release of methyl mercury into water bodies.

Table 1. Allowable Shoreline Cutting: Comparison of 2010 Stand and Site Guide with Previous Guides

Feature	Old Direction	New Direction
Lakes	Yes, for lakes > 10 hectares	Yes, for lakes > 8 hectares
Ponds	Maybe	Yes, for ponds > 0.5 and < 8 hectares
Permanent streams	Yes	Yes
Intermittent streams	Maybe	Yes
Rivers	Yes, but no explicit direction	Yes, with explicit direction
Provincially significant wetlands (PSW)	No	Yes

Riparian buffer zone	3 metres	15 metres
Clearcutting: lakes	• up to 50% on cool/warm water lakes • prohibited on cold water lakes • patches/strips	• up to 50% around small lakes • low slopes only • continuous
Clearcutting: permanent streams	• up to 50% on cool/ warm water streams • prohibited on cold water streams • patches/strips	• not within first 15 metres (if dense forest occurs) • low slopes only • only on one side

Habitat Protection

Although harming threatened and endangered species is prohibited in Ontario, the level of habitat protection currently provided for species on the Species at Risk in Ontario (SARO) list under the *Endangered Species Act, 2007 (ESA)* is variable. The Stand and Site Guide provides direction on specific considerations for habitats of many of the 59 species at risk within the AOU, although protection varies from species to species. Stand and Site Guide prescriptions may be especially important to species such as plants, reptiles and invertebrates which do not receive habitat protection under any other legislation. For some species, however, habitat protections afforded through the Stand and Site Guide may not be implemented by the time the ESA's habitat protections come into effect.

Species listed as Special Concern on the SARO list do not receive any habitat protection under the ESA. For many of these species, direction in the Stand and Site guide will increase their overall habitat protection. For example, although the den sites of eastern wolf are protected under the *Fish and Wildlife Conservation Act, 1997 (FWCA)*, the Stand and Site Guide provides additional protection for their rendezvous sites. It remains to be seen, however, whether future species of Special Concern will be included in updated versions of the guide.

The Stand and Site Guide provides specific guidance for protecting the habitat of 27 bird species. Although nests and eggs of most birds are protected from disturbance and/or destruction by either the federal *Migratory Birds Convention Act, 1994* or the provincial *Fish and Wildlife Conservation Act, 1997* the Stand and Site Guide provides additional protections for some species. Compared to previous direction, the buffers are larger for some species and smaller for others; while others are unchanged (Table 2).

Table 2. Areas of Concern for Selected Bird Species

Species	Old Direction	New Direction (Standards / Guidelines)
great blue heron	1000 m	300 m
osprey	800 m	300 m
bald eagle	800 m	400 m
Cooper's hawk	300 m	100 m

red-shouldered hawk	300 m	400 m
great gray owl	300 m	400 m
American kestrel	0 m	25 m
songbirds	0 m	0 m*

Note: direction listed is for active or primary nests/colonies.

* Although known nests are prohibited from destruction, no protection is prescribed for the area around the nest site.

Biofibre Harvest

The Stand and Site Guide includes limits on the removal of non-timber woody materials, noting that organic matter that is not part of a harvested tree must be left on site, and that "stumps and all below ground portions of a tree are not available for utilization as a forest product."

The maintenance of biofibre on the forest floor after forestry operations is vital in preventing the depletion of soil nutrients. Although biofibre may be becoming a more desirable commodity as a renewable resource – for bioenergy, wood pellets and biochemicals – its excessive removal after timber harvest may have negative impacts on soil quality over the long term. The inclusion of limits on non-timber biomass removal in the Stand and Site Guide may be increasingly important as Ontario moves forward with encouraging the use of biofibre for fuel.

Effectiveness Monitoring

The final Stand and Site Guide contains only a brief overview of the types of effectiveness monitoring and methods that may be undertaken. The ministry states that its effectiveness monitoring program is based on "the principle of hypothesis-based monitoring," with the underlying hypothesis that direction in the new guides are more effective than old direction, or no direction at all, when compared to biodiversity conservation in reference forests.

MNR will not be conducting full effectiveness monitoring for all aspects of direction in the guide. Instead, only key uncertainties will be subject to further research. Monitoring will compare Stand and Site Guide direction to controls in five study areas. Although comparisons with controlled experimental regions is a science-based, logical approach, this method may not reveal the diversity or breadth of issues within Stand and Site Guide direction, especially as guidelines require professional interpretation. The guide does not provide timelines for research and monitoring.

Forest Management and Climate Change

In December 2009, the Expert Panel on Climate Change Adaptation (the "Panel") released its recommendations to the Ontario government on how best to plan for climate change adaptation. The Panel noted that "the complexity and uncertainty of projecting the impacts of climate change are probably greater for forests in Ontario than for any other sector of the economy or ecosystem."

Beyond the immediate impacts on the forest industry and the Ontarians who depend on it, climate change will affect many nonhuman species within the Area of the Undertaking. Climate change

will also radically alter forest ecoregions across the province (for further information, see Part 3.1 of this Annual Report). Although future versions of the Landscape Guide may include measures for adaptation to climate, the Stand and Site Guide does not mention climate change at all.

Forestry modelling, planning and practices, at all scales, will have to be re-examined to consider climate change and Ontario's changing ecological communities. Recommendations by the Panel urge MNR and MNDMF, in collaboration with stakeholders, to review current forest policies to ensure they take climate change projections, trends and impacts into account.

ECO Comment

The ECO is pleased that MNR has completed the Stand and Site Guide. MNR's goal of streamlining and increasing public accessibility of the document is commendable and the ECO acknowledges the difficult work of consolidating over 20 documents into one guide. There are many positive aspects of the guide: for example, the ECO is pleased that MNR has addressed the issue of biofibre harvest in the final Stand and Site Guide, as was recommended in our 2008/2009 Annual Report. However, the process of developing and finalizing the guide has been lengthy and exceeded target completion dates. The ECO urges MNR to adhere to timelines in the future, particularly its required review of approved forestry guides every five years.

The new direction encouraging shoreline cutting was likely the most controversial aspect of the Stand and Site Guide, and some components were based on expert opinion rather than research findings. The ECO is, therefore, troubled that some key research questions related to shoreline cutting were given low priority for effectiveness monitoring by the ministry. Although the ministry's current research may address some of these issues, ongoing monitoring is essential in determining how these changes in shoreline cuts will influence aquatic and riparian communities over the long term.

In the guide, MNR admits no "rigorous" tests have shown that residual forest is sufficient for wildlife habitat – although much of the guide is predicated on the fact that residual forest will "conserve" biodiversity. The ECO questions why this research remains incomplete, despite seven years spent preparing the Stand and Site Guide. Without research to show that residual forest provides for the ecological integrity of biological communities, MNR's approach to forestry continues to be a "grand experiment" as the ECO noted in our 2001/2002 Annual Report.

MNR's approach to treat "policies as hypotheses" may be a rapid and economical way to proceed. However, if monitoring programs are not thorough, well funded and completed in a timely manner, these "hypotheses" are not truly being tested, and are simply ill-informed and risky policy directions. This is especially troubling for controversial directions, such as increased shoreline cutting and harvest around provincially significant wetlands. The ECO is concerned that there are no timelines for effectiveness monitoring, and is disappointed in the lack of information about monitoring provided in the Stand and Site Guide.

It is currently impossible to determine how effective this policy will be in conserving biodiversity during forestry practices. Before the implications of this guide can be measured, it will need to be incorporated into future FMPs, which in turn will be used to guide forest management on the ground. As a result, large-scale, practical results and compliance with this policy will not be available for evaluation for several years, through monitoring FMPs and independent forest audits. In ecological time frames, the benefits afforded to biodiversity conservation as a result of this guide will take much longer to observe.

For more information about this decision, please see Section 4.18 of the Supplement to this year's Annual Report. For ministry comments, please see Appendix C.

3.8 Bringing Ecological Integrity to the Landscape: Ontario's Protected Areas Planning Manual

Ontario's protected area system includes 329 provincial parks and 294 conservation reserves. These protected areas vary in their size, geographic characteristics, biological diversity and accessibility. Together, they contribute to Ontario's overall biodiversity, economy, outdoor recreation and natural heritage appreciation opportunities. The framework within which the Ministry of Natural Resources (MNR) plans and manages protected areas has several levels, which produce increasingly detailed and site-specific decisions. These levels include legislation, strategic directions, MNR planning policies, protected area systems planning, land use planning and site-specific management directions.

At the level of the individual protected area, management directions can be: (1) a brief management statement that addresses a limited number of non-complex issues; or (2) a detailed management plan that addresses substantial and complex issues. While 613 of Ontario's 623 protected areas are currently covered either by a management plan or statement, this does not necessarily mean that these management directions reflect up-to-date legislation and policies or were subject to adequate public involvement when they were developed. Of Ontario's 294 conservation reserves, for example, fewer than 20 are covered by a management direction that involved public consultation through a posting on the Environmental Registry, as required by the *Environmental Bill of Rights, 1993* (EBR).

With the passage of the *Provincial Parks and Conservation Reserves Act, 2006* (PPCRA), MNR is required to "prepare a management direction that applies to each provincial park and conservation reserve" by September 2012, and annually examine management directions that have been in place for 10 years or more to determine whether they need to be amended or reviewed. To guide the preparation and amendment of management statements and plans, the PPCRA requires MNR to prepare a planning manual. In August 2009, MNR finalized its Protected Areas Planning Manual (the "manual"), replacing the Ontario Provincial Park Management Planning Manual (1994) and processes that were previously used for planning conservation reserves. MNR states that the manual "establishes a provincially consistent, transparent and predictable approach to protected areas planning."

The Protected Areas Planning Manual

The manual outlines each step that MNR staff are to follow in developing management directions for protected areas, including:

- scoping the project;
- compiling background information;
- consulting the public;
- preparing preliminary management direction; and
- obtaining approval for the revised direction.

The manual recognizes, however, that planning processes are often iterative, multiple steps may occur simultaneously, and certain aspects may occur throughout the planning process. The manual provides minimum requirements for involving stakeholders, Aboriginal communities and the public in the planning process. MNR notes that sometimes a secondary management plan may be prepared for complex topics where management direction policy is required or needs elaboration.

The manual also provides guidance for the implementation of a management direction. This includes:

- communicating its status to affected parties and the public;
- using adaptive management; and
- implementing projects through the Class Environmental Assessment for Provincial Parks and Conservation Reserves (Class EA-PPCR).

The manual encourages monitoring both the implementation of the management direction and the effectiveness of its management actions. Finally, the manual provides guidance on updating, examining and amending management directions, and direction on monitoring the implementation, maintenance, and revision of the planning manual itself.

The PPCRA directs that the "maintenance of ecological integrity shall be the first priority" in all aspects of the planning and management of Ontario's provincial parks and conservation reserves. Ecological integrity refers to a condition in which "biotic and abiotic components of ecosystems and the composition and abundance of native species and biological communities are characteristic of their natural regions and rates of change and ecosystem processes are unimpeded." The planning manual acknowledges ecological integrity as the first priority in the planning and management of protected areas and instructs that this principle be considered throughout the planning process.

Public Participation & EBR Process

MNR appears to have thoughtfully reviewed the five comments submitted by the public and reconsidered aspects of the proposed manual. Notably, MNR revised the manual to remove references to "implementation plans," which in the draft manual involved grouping related projects together and subjecting them to the requirements of the Class EA-PPCR rather than the consultation requirements of the EBR. Instead, the approved manual now references "secondary plans," which may be prepared to address complex topics. MNR insists that these secondary plans will be treated as amendments to management direction and subject to posting on the Environmental Registry, as is clearly required by the EBR.

ECO Comment

The ECO is pleased with the clear and detailed guidance that the manual provides. The figures, tables and references to supplementary tools should provide an easy-to-follow path for MNR staff and the public.

The ECO applauds MNR for unambiguously recognizing the priority of ecological integrity in protected areas planning and incorporating this consideration throughout the manual's planning steps. In particular, the ECO appreciates the manual's instructions to identify monitoring methods and

indicators to measure the effectiveness of management directions in maintaining ecological integrity. Effective monitoring should guide the future management of each protected area and provide the information needed to inform MNR's State of the Protected Areas Report.

Nevertheless, the ECO strongly disagrees with MNR's decision to put important details regarding protected areas planning in separate guidelines that seemingly will be unavailable for public comment. Despite MNR's legal obligation to adhere to the EBR, the manual states that MNR will manage the supplementary tools and guidelines independently of the manual and they "may be changed, created or deleted at MNR's discretion without external involvement." Several of these guidelines will likely be environmentally significant, including guidelines that direct: how to determine planning and management priorities in the context of ecological integrity; how to consult with public and Aboriginal communities; and how to monitor the effectiveness of management directions. Although the manual refers to an MNR website for the "most current list of planning tools and guidelines," as of August 2010, this website listed no such documents. According to MNR, they were still being developed. Given their likely environmental significance, the ECO urges MNR to comply with the EBR and post the draft guidelines on the Environmental Registry for public comment once completed.

While the previous parks planning manual contained detailed policy directions for provincial parks (e.g., on the phase-out of commercial trapping in protected areas), the new manual provides only general planning guidance and relegates detailed direction to undrafted guidelines (e.g., the Protected Areas Compatibility Test). As a result, until the supplementary guidelines are developed, protected areas planning seemingly lacks detailed guidance on important details, such as the appropriateness of specific activities in protected areas. To ensure that activities in protected areas do not jeopardize ecological integrity, planning staff need a policy that clearly articulates MNR's position on the appropriateness of specific activities in protected areas. In addition, MNR needs a guideline to screen the compatibility of unforeseen activities with the maintenance of a protected area's ecological integrity. The ECO encourages MNR to fill these policy gaps as promptly as possible and, as required by the EBR, post these policies on the Environmental Registry for public comment.



Photo: C. Williams

The ECO reiterates the observation made in our 2006/2007 Annual Report that protected areas must be managed on a greater ecosystem basis to fulfil their mandate of protecting biodiversity. Management directions for protected areas should consider ways to identify and address threats that originate from outside their borders. Likewise the planning manual should instruct that this consideration be included in management plans and statements. Also, given that MNR's SEV includes a commitment to encourage energy and resource conservation in the ministry's operations, the ECO is disappointed that the planning manual does not instruct MNR staff to consider ways to incorporate greening opportunities into management directions.

The ECO has expressed frustration before that there is no requirement that MNR adhere to policies and plans created under the PPCRA. Because policies under the PPCRA have no regulatory weight, no matter how sound the guidance in the planning manual or how protective a management plan, there is nothing that requires MNR staff follow them. To give management directions the authority

they need to ensure environmental protection, the ECO encourages the government to amend the PPCRA to require that a decision made by a Minister of the Crown be consistent with park management statements and plans.

While the PPCRA and the planning manual clearly prioritize the consideration of ecological integrity, the Class EA process for projects in protected areas, which predates the PPCRA, does not. As the ECO has noted before, this inconsistency poses serious problems, which, unless fixed, will be exacerbated in the years to come. The ECO is disappointed that MNR is late in completing its required review of the Class EA-PPCR, but hopes the delay is due to a substantial overhaul of this document to prioritize the consideration of ecological integrity.

Recommendation 5

The ECO recommends that the Ministry of Natural Resources amend the *Provincial Parks and Conservation Reserves Act, 2006* to make management direction for protected areas binding on the Crown.

For a more thorough review of Ontario's Protected Areas Planning Manual, see Section 4.19 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.



Part Four
Conserving Environmental Quality

"Conserve" is a deceptively comfortable verb, evoking images of quiet museum corners or secluded country retreats. The Concise Oxford Dictionary's definition of "conserve" is: *store up; keep from harm or damage, especially for later use*. It's one thing to be conserving artefacts of a former era – there's an easy charm in that. It's quite another thing to conserve fundamentals essential to our daily life and to our very survival – and none are more fundamental than air quality and water quality.

We have every good intention to conserve air and water quality, but since we share these gifts in common with millions of others, and since we have virtually free use of them, other priorities take over, and our good intentions remain just that. The following part of the Annual Report describes some of Ontario's challenges in conserving air quality, water quality and natural heritage lands. Far too often conservation alone is not adequate, because air and water quality are already significantly degraded. Clean-ups are called for, and sometimes those clean-ups appear to have an overwhelming scale.

This part of the Annual Report does, however, have a hopeful thread running throughout. It outlines real opportunities to restore our Great Lakes to "great" status by improving the quality of municipal wastewater effluents. It also highlights the admirable example of Guelph, showing that a wastewater plant (and the group of professionals running it) can respond with intelligence and innovation to ecosystem limits set by the receiving waterway. This is the conservation ethos at work.

Regarding air quality, this part describes ongoing efforts by the Ministry of the Environment to regulate industrial air emissions. It describes some of the pitfalls of basing emission limits on the business constraints of industrial sectors rather than on health and environmental risks. It also points to the need for a stronger focus on traffic-related emissions, and illustrates the proactive work of some municipalities in assessing their local air quality issues and incorporating that knowledge in land use planning.

The ambitious plan to protect and restore the Lake Simcoe watershed is also reviewed in this part of the Annual Report, including some cautions on the many exemptions allowing continued development activities. The last piece in this part is a cautionary tale of Ontario laws and policies operating at cross-purposes, with the result that provincially significant wetlands are being drained rather than conserved.

4.1 Sewage Treatment: Not Good Enough

Big, blue and beautiful, the Great Lakes are our unmistakeable signposts of home on any map of the world. They are our natural heritage, our playground and the source of much of our drinking water. When Ontario kids get their first chance to swim in a lake, there is a good likelihood it will be in one of the Great Lakes. Sadly, the Great Lakes are also blighted by areas where water quality has been degraded for generations.

However, we could achieve real – even dramatic – improvements in the water quality of our Great Lakes by cleaning up our municipal wastewater effluents. It has been done before. The Americans were able to achieve remarkable clean-ups of their lakes and rivers in the 1980s and 1990s by strengthening their *Clean Water Act*, 2006 and by setting clear standards for municipal wastewater. In Ontario we already have communities such as Guelph showing great potential to produce very high quality wastewater effluent (see Part 4.1.2 of this Annual Report). So the precedents and technology are available, ready for us to apply, and we have the ability to restore our Great Lakes to truly "great" status, in our generation.

Municipal wastewater effluents – even treated effluents – place very heavy burdens on our lakes and rivers. They are key contributing pressures to water quality deterioration, along with other pressures, such as agricultural and urban run-off and industrial discharges. Our beaches are often closed due to high bacterial levels; fish and other aquatic organisms suffer acute and chronic toxicity from ammonia or residual chlorine; and excessive nutrients produce soupy algal growth, fouling our shorelines. These and other kinds of chronic habitat degradation are, to a considerable degree, consequences of the pollutants found in municipal wastewater discharges. Harmful effects can often be observed for 10 to 20 kilometres downstream from a municipal effluent discharge, and some parts of ecosystems may not recover for 20 to 100 kilometres.

All waterways are vulnerable to deterioration from municipal wastewater, but the most densely populated parts of the Great Lakes basin – Lake Ontario, Lake Erie and the Ottawa River – receive the lion's share (about 85 per cent) of Ontario's effluent. Environment Canada has estimated that 15 per cent of river and lake areas in the Great Lakes basin have been damaged by effluents from municipal wastewater treatment plants. As in the case of Ottawa (see Part 4.1.1 of this Annual Report), sewer overflows and sewage spills are often to blame, but aging, inadequate treatment capacity is also a problem at many locations.

4.1.1 Ottawa's Overflow Woes

Ottawa beaches were closed again in last summer's best swimming weather, as they were the year before, because *E.coli* levels in the water were too high to allow residents to safely go swimming. By late summer 2009, hundreds of millions of litres – about 320 Olympic-sized swimming pools worth – of untreated sewage and stormwater had overflowed into the Ottawa River as a result of both heavy rainfall and periodic system malfunctions. Although raw sewage was only a small proportion of Ottawa's outflow to the river, combined with an undetermined overflow quantity from Gatineau, it led to the beach closures, as well as other problems for residents and aquatic ecosystems.

While the image of raw sewage flowing into the river is shocking, Ottawa's situation is surprisingly common among Ontario municipalities – and indeed, cities around Canada and the world. In older cities in Ontario, sewer systems were designed before sewage was collected and treated. Also, sewer systems in many of Ontario's cities are combined, with stormwater and sewage flowing into the same pipes. During times of heavy rainfall, when volume exceeds the maximum capacity at sewage treatment plants and holding tanks, sewers overflow into neighbouring water bodies, in this case the Ottawa River.

As population increases and urban areas intensify around the province, additional pressures are put on sewer systems. Climate change adaptation is also of growing concern in municipal infrastructure upgrades. Stormwater systems are designed to handle heavy rainfall, but in recent years, rainfall events in Ottawa have increased in frequency and quantity – surpassing the amount of water the system was built to withstand. It is anticipated that with climate change, such extreme events in Ontario's rainfall will continue and could intensify.

While sewer systems are a crucial part of a functioning city, sewer infrastructure upgrades are often expensive and disruptive, and improvements are unseen, making them unsavoury to city councils and residents alike. In Ottawa's case, however, frustrations over the beach closures, flooding, sewage backup, and untreated sewage flowing by the Prime Minister's residence caught media and public

attention, and put pressure on local politicians to take action. The ECO was invited by the Member of Provincial Parliament for Ottawa West – Nepean to review Ottawa's sewage problems in summer 2009. Even by this time, many improvements had been made to reduce overflows to the river. It is hoped that Ottawa's new plan for dealing with its sewer and stormwater problems, approved in February 2010, will eliminate the untreated sewage flowing to the Ottawa River under "normal" rainfall years. City beaches should be swimmable again.

Ottawa will be an Ontario leader in controlling overflows into its water, but new infrastructure comes at a cost. Ottawa's plan will require hundreds of millions of dollars, which may lead to increases in water costs for residents. Many other municipalities in Ontario will need to make similar tough decisions on upgrading their wastewater infrastructure – and how they will pay for it.

Long-standing Concerns of the ECO

Past annual reports of the ECO have repeatedly highlighted Ontario's chronic problems with sewage. Our 2002/2003 Annual Report outlined the environmental impacts, and critiqued the scanty information available to Ontarians on the performance of their sewage systems. The Ministry of the Environment (MOE), which regulates wastewater effluents, has not published an overview of basic performance parameters, such as pollution loadings and overall compliance rates, since 1993.

The ECO revisited this issue in subsequent years and asked the ministry for updates. MOE responded in 2004, 2005 and again in 2006, that it was deferring important monitoring and reporting work, pending the development of a national strategy under the umbrella of the Canadian Council of Ministers of the Environment (CCME) to manage municipal wastewater effluent.

What the New CCME Strategy Will - and Will Not - Do

The CCME Strategy and accompanying new *Fisheries Act* regulations will set minimum effluent standards, achievable through normal secondary wastewater treatment. Individual provinces and territories are free to set stronger standards if they choose.

The CCME Strategy was slow in coming, but in February 2009 it was finally signed by the Environment Ministers of most provinces, including Ontario. Some parts of this non-binding strategy will be given the weight of law, as the federal government plans to finalize regulations under the federal *Fisheries Act* to harmonize effluent standards for a short list of conventional pollutants. Draft federal Wastewater Systems Effluent Regulations were released in March 2010. Implementing other parts of the strategy will be left to each province, including sections dealing with sewer overflows and managing other problematic pollutants in effluents.

Phase-in of the new rules under the *Fisheries Act* will be very leisurely; wastewater systems posing a "high risk" will be required to comply within 10 years, while "medium" or "low" risk systems will be given 20 to 30 years. For some parts of Canada, where both small and large communities still rely on primary treatment, the new standards will at least set a badly needed minimum, and will trigger upgrades in the fullness of time. In 2004, almost a quarter of the Canadian population connected to sewers was still relying on primary sewage treatment. A further 3 per cent had no wastewater treatment at all. By contrast, in the United States, secondary treatment has been the minimum acceptable technology for 38 years, since the enactment of the *Clean Water Act* in 1972.

Status Quo for Ontario?

It is very doubtful whether the set of new national standards will serve as a force for change in Ontario. As seen in Table 1, many of Ontario's municipal wastewater plants have already been operating for 25 years under effluent guidelines that are identical or remarkably similar to the proposed new national standards.

Table 1
Comparison of Municipal Wastewater Effluent Standards
(After Secondary Treatment)

Parameter	MOE Effluent Guidelines (Since 1983)	Proposed Fisheries Act Regulations (January 2010)	U.S. EPA Requirements (Since 1977)
Biochemical oxygen demand (BOD5) (mg/L) averaged over 5 days	≤ 25	≤ 25	25
Total suspended solids (TSS) (mg/L)	≤ 25	≤ 25	30
Phosphorus (mg/L)	1	—	—
<i>E. coli</i>	< 200 counts/100mL	—	—
Total residual chlorine (mg/L)	—	≤ 0.02	—
Un-ionized ammonia (mg/L)	—	< 1.25	—
pH	—	—	6-9
Removal requirements	—	—	85% BOD5 & TSS

The new national standards set no limit at all on phosphorus. However, many Ontario wastewater treatment plants have long operated under phosphorus limits, reflecting in part Ontario's commitments under the 1983 binational Great Lakes Water Quality Agreement. In April 2010, MOE advised the ECO that the new national standards will not be game changing:

Ontario is well-positioned to meet the requirements of the federal regulation for treatment facilities....It is anticipated that a manageable number of small systems in Ontario may have difficulty complying for various reasons, however, they would have 20-30 years to improve their situation.... It must also be noted that through MOE's issuance of certificates of approval, many plants in Ontario go beyond the CCME requirements.

Ontario still has eight primary treatment plants (including Cornwall, Owen Sound and Brockville), serving about 140,000 people in total; however, MOE is confident that funding is in place to upgrade all these plants by 2015. Overall, this sounds like reassuring news. Ontario's wastewater plants tend to be in better shape than many in other provinces. But it does not answer a core question: is there a need for Ontario's municipal wastewater facilities to go beyond CCME's standards? To answer this question, we need information in three key areas.

Question #1: What are Great Lakes Trends Telling Us?

We do have some relevant indicators, and they are troubling. The 2009 binational State of the Great Lakes report describes the phosphorus situation as "poor" in nearshore areas of Lake Ontario, Lake Erie and Lake Huron, and calls for target phosphorus loads for major municipal sewage treatment plants. High phosphorus levels are contributing to increased algal fouling of shorelines over wide areas of eastern Lake Erie, areas of Lake Ontario and patches around Lake Huron. The quality of beaches in Ontario is "poor" and "deteriorating" over time not just for Lake Erie, but also for Lake Ontario. For 2006-07, only a quarter of beaches on our side of Lake Ontario were clean enough for swimming over 95 per cent of the beach season. Beaches on the U.S. side of the lake were much cleaner.

Question #2: What are Pollution Loading Trends Telling Us?

We need to know the impacts of Ontario's population growth on wastewater loadings, (i.e., the total amount of pollutants discharged per year). Between 1991 and 2007, Ontario's population increased by 26 per cent. Projections anticipate the population will grow by a further 38 per cent between 2008 to 2036, adding another 4.9 million people. Simple arithmetic dictates that as wastewater volumes increase with population, the effluent concentrations of key pollutants should be steadily ratcheted downward, to avoid increasing overall loadings to our waterways.

Is MOE tightening pollutant concentration limits to levels low enough to keep overall loadings from growing? The evidence suggests not. MOE's effluent guidelines have remained the same since 1981 (see Table 1), and there is no formal review mechanism to tighten the guidelines. MOE can and does set more stringent effluent limits for specific plants on a case-by-case basis, and some plants are meeting very tough limits. But it seems, with the notable exception of Lake Simcoe (see Part 4.5 of this Annual Report), that the ministry has not been regulating, calculating, reporting or even thinking in terms of overall loadings of pollutants to waterways since the early 1990s. It is frankly surprising for MOE, entrusted with the quality of our waterways, to be in the dark on such a fundamental parameter.

At one time, the ministry did recognize the importance of loadings. In 1993, MOE last reported five-year province-wide trends for wastewater flows and loadings of two key indicator pollutants: biological oxygen demand (BOD) and suspended solids. The trends were steadily upwards. Since 1993, given population growth and the lack of tighter standards, the trends have probably continued inexorably upwards, but the ministry has not been crunching the numbers to find out. Other regulatory agencies see a need for this work. For example, in the 2009 State of the Great Lakes Report, Environment Canada and the U.S. Environmental Protection Agency (EPA) noted that loadings are a necessary indicator of Great Lakes health, and recommended a push on preparing trend analyses and making them public.

Question #3: What is MOE Already Planning to Do?

The ministry has no published strategy for discussion. However, MOE seems to have two areas of focus:

- funding support for upgrades at selected wastewater plants; and
- meeting the CCME strategy commitments.

Much of the recent funding has flowed through the federal-provincial Infrastructure Stimulus Fund, and priorities have evidently been driven by Great Lakes water quality concerns. Since 2007, Ontario has committed over \$653 million to municipal wastewater infrastructure upgrades in the Great Lakes basin, including up to \$100 million towards the upgrade of Hamilton's wastewater treatment plant. Hamilton Harbour has long been listed as an Area of Concern on the Great Lakes, and this upgrade to tertiary treatment is part of efforts to have Hamilton "delisted." The commitment under the Canada-Ontario Agreement on the Great Lakes to upgrade remaining primary sewage treatment plants has clearly also been an important factor in grant decisions.

To meet the CCME strategy commitments, MOE is gearing up for new effluent monitoring and public reporting requirements for wastewater facilities, proposed to take effect in 2012. The ministry is also in discussions with the federal government to harmonize the regulatory framework.

The CCME strategy also sets some targets for dealing with combined sewer overflows, but MOE believes its existing policy is already adequate. MOE has also begun a voluntary pilot project with ten municipalities, addressing bypasses and overflows from combined and sanitary sewers. The intent is to try out proposed monitoring and reporting requirements, and plans for minimizing discharges of untreated sewage. Once federal reporting rules are negotiated and finalized, the ministry also hopes to accommodate electronic data submission by all municipalities. An antiquated data management system has evidently been a long-standing drag on MOE's ability to analyze trends in sewage bypasses, overflows and other key indicators.



ECO Comment

Based on the available evidence – deteriorating Great Lakes water quality indicators, rising population trends and MOE's stated priorities on municipal wastewater – the ECO believes that the *status quo* approach to wastewater management is not adequate for today, and certainly will not be sufficient for the coming generation.

Funding Approach Not Adequate

There are two connected problems in funding wastewater treatment: first, Ontario's existing funding model, relying strongly on sporadic grants from senior levels of government, is not sustainable. It is very difficult for municipalities to responsibly plan, finance, manage and conserve their wastewater assets, given the temptation of rare, unpredictable, but often large grants.

Second, the absolute dollar amounts allocated are far too small. Ontario's investment of \$653 million since 2007 appears a large figure, but it pales in the context of our enormous accumulated backlog of water and sewer repairs – estimated at \$18 billion. Toronto alone has a backlog of \$1.3 billion in underground water and wastewater repairs, and should be spending a minimum of \$254 million per year to deal with it, according to the General Manager of Toronto Water.

Full cost pricing for water and wastewater infrastructure has long been recognized as a needed reform in Ontario – a point on which industry leaders and environmental groups agree. In 2002, Ontario went as far as passing the *Sustainable Water and Sewage Systems Act*, requiring municipalities to prepare full-cost accounting reports and cost recovery plans for water and wastewater. Unfortunately, this law has never been proclaimed in force, and the government remains reluctant to take this step.

The government's caution on full-cost pricing is misplaced. Ontario water rates are generally low compared to the water rates assessed in many other jurisdictions, as well as compared to other household services. Indeed, a recent survey found that almost 30 per cent of Canadians do not even know what they pay for their water. The City of Toronto has doubled its water rates over the last decade, and is still able to provide the average household with combined water, wastewater and stormwater service at a modest charge of \$1.69 per day.

Effluent Limits Not Adequate

MOE appears poised to settle for the lowest common denominator effluent standards developed by the CCME Strategy, without further public consultation. But the CCME's target concentration limits are essentially the same limits that have been the *status quo* in Ontario since 1983. With southern Ontario's ever-increasing population, allowable effluent concentrations need to be reduced over time, just to compensate for increasing flows to our waterways. In the same way, car tailpipe emissions have had to improve over time to compensate for soaring vehicle numbers.

MOE Internal Capacity Not Adequate

It does not appear that MOE currently has the capacity or the data to be proactive on municipal wastewater issues. To start with, the ministry should restore its capacity to measure, track and publicly report on loadings. Pollution loadings are an excellent measure of cumulative impacts on a water body, and the ministry has committed itself to consider cumulative effects. So far, MOE has applied a loadings approach only to Lake Simcoe, setting a loading target of 44 tonnes of phosphorus per year. That approach should be expanded to the Great Lakes.

The ministry also needs to rebuild its internal technical expertise, to experiment with new approaches, and to provide support, guidance and direction to municipalities. For example, municipalities that are looking to optimize their facilities should be able to turn to MOE for advice and input (see Part 4.1.2 of this Annual Report). On broader policy issues, such as the pros and cons of decentralized wastewater treatment, the ministry should be able to provide a context for and lead the policy debate (see Part 4.1.3).

Transparency Not Adequate

For some sectors, MOE has wisely published performance data and trends over time, shining a light on both leaders and laggards. For example, MOE applies this approach admirably to Ontario's drinking water facilities, and also in the new *Toxics Reduction Act, 2009* (see Part 4.2 of this Annual Report). But the public is left in the dark on the performance of municipal wastewater facilities, so much so that an environmental group, Ecojustice Canada, has seen the need to issue periodic assessments of Ontario

sewage discharges, analyzing data it requests from the ministry. MOE should greatly strengthen transparency and public engagement on broader wastewater policies as well.

Opportunities for MOE

MOE has a special opportunity to build on the minimum floor set by the CCME strategy and minimum treatment levels. Both our water quality and population trends are compelling arguments for the ministry to take immediate action to assess and strengthen the control of municipal wastewater treatment. Experience and extensive documentation in the United States show what can be accomplished: over a 28-year period, tougher municipal wastewater standards led to a 23 per cent decline in loadings of BOD to that nation's waterways, despite a significant 35 per cent increase in the population served. Many U.S. river basins and urban waterways showed tremendously improved water quality and fisheries as a result.

To do the job properly, MOE will need to tackle some challenging issues, including: requiring full-cost pricing; setting effluent limits that reflect loadings; rebuilding its own internal capacity to assess wastewater treatment and support municipal efforts; and engaging the interest of the general public in water quality issues in general and the current state of wastewater treatment in particular. Perhaps this last point is where the ministry needs to begin. If the recent experience of the City of Ottawa is any guide, Ontarians have already decided it is time to put some real money on the table for swimmable, fishable, drinkable waterways.

Recommendation 6

The ECO recommends that the Ministry of the Environment monitor and publish annual reports on the quality of municipal wastewater discharges to Ontario waterways, providing both concentrations and loadings of key pollutants.

4.1.2 Success Story: Guelph Optimizes its Sewage Treatment

Sewage treatment plants in Ontario are expected to require billions of dollars worth of upgrades and expansions over the next decade to replace worn out infrastructure, build additional capacity and improve facility performance. Rather than incur the huge capital costs of new infrastructure and expensive new technology, a viable alternative can sometimes be "optimization."

What is Optimization?

Optimization is a process in which a facility closely examines its operations, practices and management to find ways to improve efficiency. In some cases, making minor operational changes can yield big improvements in the quality of a wastewater facility's treated effluent.

Optimization programs typically involve the fine-tuning of each individual component of the facility. For example, operators might monitor the influent and effluent concentrations from each treatment component, make a series of process control adjustments (e.g., alter flow distribution, modify chemical dosages, etc.) and determine which adjustments improve performance.

Optimization programs also involve general "troubleshooting" of the plant – looking for design

deficiencies, process bottlenecks and operator problems. In addition, these programs usually place a major emphasis on operator training to ensure a well-run plant.

Although the optimization process itself requires an investment in staff and other resources, the program has the potential to create significant cost savings. A finely-tuned facility can often reduce operational costs, as well as defer or avoid costly upgrades and purchases of expensive new technologies. In some cases, an optimization program can even avoid the need to build new infrastructure (e.g., to meet local growth) by tapping into the latent capacity of existing infrastructure to treat higher volumes of wastewater.

Guelph: An Example of Successful Optimization

The City of Guelph's population is slated to grow by at least 50 per cent by 2030 under the provincial Growth Plan for the Greater Golden Horseshoe. To meet this anticipated growth, the City of Guelph (the "City") proposed expanding its sewage treatment facility at an estimated capital cost of \$20 million.

The Guelph facility discharges into the Speed River, a small waterway that cannot assimilate large loadings of wastewater at low flow. Therefore, in order to expand, the facility would need to improve the quality of its treated effluent being discharged into the river. Despite being a modern, tertiary treatment plant, the Guelph facility could not meet the stringent treated effluent standards required of an expanded facility.

In 2008, rather than committing to an expansion, the City decided to undertake an optimization program to get the most out of its existing infrastructure. The program examined each treatment process looking for bottlenecks and assessing cause-and-effect relationships to identify opportunities to improve the performance of the facility and increase its capacity. The program focused heavily on developing the facility's "human infrastructure" by investing in staff training and skills development to enable the staff to improve the facility's process control.

As a result of the program, the facility reduced the concentration of ammonia in its treated effluent such that it could consistently meet the stricter effluent limits required for an expanded facility. Similarly, operations staff achieved lower chlorine limits by improving the process control of the existing chlorine removal system. Previously, facility managers believed that they needed to install a new UV disinfection technology, at an estimated cost of \$5 million, to replace chlorine disinfection.

The program also untapped enough new processing capacity that the existing plant could be re-rated to meet all of the anticipated future needs. Accordingly, the optimization program helped the City avoid spending an estimated \$20 million to expand the facility.

Optimization as First Priority

The Ministry of the Environment (MOE) has long supported the idea of optimization. For decades, up until the early 1990s, MOE operated a comprehensive program to train and support facility operators. In the late 1990s, the Governments of Ontario and Canada helped over 25 municipal facilities in the Great Lakes basin improve the quality of their effluent through the Municipal Sewage Treatment Plant Optimization Program. In 2009, the ministry, in partnership with Environment Canada, Durham Region and the Water Environment Association of Ontario, began developing a Guidance Manual for Optimization of Sewage Treatment Plants.

Yet, not enough facilities take full advantage of this option. Many facilities (particularly smaller ones) lack the specialized staff, expertise and sensor equipment required to run an optimization program. In addition, federal and provincial funding programs often favour the traditional design and construction approach over improvement of existing operations.

The ECO encourages MOE to expand its support of optimization by providing financial and technical assistance for optimization programs – either directly or through the Ontario Clean Water Agency – especially for smaller facilities. Further, before granting any approvals for expansions or upgrades, MOE should first ensure that the facilities are obtaining optimal performance from their existing infrastructure.

4.1.3 When Bigger Isn't Better: Decentralized Wastewater Treatment Systems

Many small or rural communities across Ontario are faced with the need to overhaul wastewater treatment to accommodate an increasing population, climate change or stricter environmental regulations. Historically, the solution was one of three options: build a new centralized wastewater treatment system; connect to or upgrade an existing system; or continue to rely on septic or on-site systems. However, there is another option for these communities – decentralized wastewater systems.

Centralized systems collect wastewater from entire communities where it is usually treated at a large facility and discharged into a lake or river, typically from one location. For example, the York Durham Sewer System or "Big Pipe" collects wastewater from communities from as far north as Newmarket and transports it over 120 kilometers in sewer pipes to a large sewage treatment plant in Pickering where treated effluent is discharged into Lake Ontario. In contrast, standard onsite or septic systems collect, treat and discharge wastewater where it is generated, usually from a single home. Many rural and small communities in Ontario rely upon septic systems to treat wastewater until a sewage treatment plant is built or connected to.

Decentralized wastewater treatment systems use a combination of onsite or cluster systems to treat and dispose of wastewater from houses and businesses that are located relatively close together. Cluster systems collect and treat wastewater from two or more homes, but typically less than 100. In a decentralized system, individual septic tanks or aerobic units may pre-treat wastewater from several homes onsite before it is transported through small sewers to a local treatment unit. The effluent can be discharged into the groundwater or surface water after treatment. For example, the communities of the Fields of St. Croix and Jackson Meadow in Minnesota use constructed wetlands to provide onsite wastewater treatment in unsewered areas, instead of standard septic systems. This approach allowed development of a small cluster of residential lots and the community to maintain larger areas for permanent open space. In Ontario, the Thornton Crossing Commercial Plaza, in a rural community north of Toronto, uses an onsite plant to treat wastewater from restaurants, a gas station and some shops in an unserved area. Decentralized systems keep wastewater within the watershed, can recharge groundwater supplies and maintain stream base flows, can recover nutrients (nitrogen and phosphorus) from wastewater for use as fertilizers in landscaping and agriculture and can reuse treated wastewater (e.g., for toilets, irrigation and firefighting).

While centralized wastewater treatment plants are appropriate for many larger communities and those with industrial sewer users, decentralized systems provide an option for some small communities

where large sewage treatment plants are not desired or feasible. In 1997, the U.S. Environmental Protection Agency (EPA) reported to Congress that decentralized systems can protect public health and the environment (compared to septic systems), typically have lower capital and maintenance costs for rural communities (compared to centralized systems), are appropriate for a variety of site conditions and are suitable for ecologically sensitive areas when adequately managed. The U.S. EPA created voluntary guidelines for the management of decentralized wastewater treatment systems, but no such guidance exists in Ontario.

Decentralized approaches are by no means a panacea. Unless harnessed within strong land use planning rules, misuse of this option could lead to rampant, unsustainable development on rural lands. On the other hand, traditional centralized systems have certainly not been able to prevent urban sprawl, and long-distance "big pipe" systems have encouraged urban development well beyond the carrying capacity of local watersheds. If the two approaches are compared on the basis of overall system resilience, the centralized approach has a distinct disadvantage: whenever very large populations become dependent on a single central treatment system, they also become vulnerable to catastrophic failure of that system.

The time is ripe for a public policy discussion in Ontario on the relative merits, downsides and appropriate uses of both decentralized and centralized wastewater treatment approaches. Ontario's existing rules and policies would certainly discourage communities from considering decentralized wastewater systems. For example, most government funding programs in Ontario favour the establishment of a centralized system approach. Typically, centralized systems are funded by municipalities who often seek and receive government grants or subsidized loans to help with the costs. Conversely, developers usually fund the installation of decentralized systems and then transfer the responsibility to a management entity (normally a municipality) once it is completed. Decentralized systems tend to have more components to manage than centralized systems and, therefore, proper management (e.g., planning, siting, design, installation, operation, maintenance and monitoring) is critical to their performance.

There are many legitimate questions regarding where, how and why decentralized wastewater systems could be employed sustainably in Ontario. This is one example where the Ministry of the Environment could show leadership, and could engage the public in a dialogue on the implications, barriers and options of this approach.

4.2 Moving from End-of-Pipe to Front-End Toxics Reduction in Ontario

In 2007, the Ontario government committed – during the election campaign and after re-election – to establish a toxics reduction strategy that would reduce pollution and protect the public from toxic chemicals in the air, water, land and consumer products.

To meet this commitment, in January 2008, the government established a panel of experts, the Toxics Reduction Scientific Expert Panel, to help develop a strategy to reduce the use and creation of toxic substances in Ontario. In August 2008, the Ministry of the Environment (MOE) published a proposed toxics reduction strategy. In June 2009, the province passed the *Toxics Reduction Act, 2009 (TRA)*. Six months later, in December 2009, the province filed O. Reg. 455/09, the general regulation under the TRA. On

January 1, 2010, both the TRA and O. Reg. 455/09 came into force, concluding a somewhat frenetic two-year process of policy development, public consultation, and legislative and regulatory enactment.

Background

Ontario is home to thousands of facilities that routinely create, use and discharge toxic substances through the course of their day-to-day activities. As a result, Ontario is the largest discharger of toxic substances in Canada, and one of the top five dischargers of toxics in North America.

What are Toxics?

"Toxics" are chemical substances that are believed to be harmful to humans, animals and/or the natural environment. Toxic chemicals can be created in various ways – as a by-product during an industrial process, produced deliberately for a specific purpose, or as a breakdown product released during use or disposal – or they may occur naturally in the environment (such as metals and ammonia). In Canada, over 23,000 chemical substances are used commercially for a wide variety of purposes, with new substances being introduced each year. Exposure to these substances – through air, water, soil, food or commercial products – can result in adverse health effects to animals, plants and humans.

Key Features of the *Toxics Reduction Act, 2009*

The TRA requires all regulated facilities to:

- track and quantify how each "toxic substance" moves through their facility;
- develop a "toxic substance reduction plan" for each "toxic substance"; and
- prepare an annual report on the facility's use, creation and release of toxics and its progress in implementing the toxic substance reduction plan.

Toxic Substances

"Toxic substances" are prescribed in O. Reg. 455/09 as any substance listed in the National Pollutant Release Inventory (NPRI), in the form specified in the most current NPRI Notice, as well as acetone. The NPRI is a national inventory of pollutant releases and emissions that is administered by the federal government. It currently lists 347 substances.

From this list of 347 prescribed "toxic substances", O. Reg. 455/09 establishes a list of 47 priority (Phase 1) substances (and substance groups) that require immediate action. The priority substances include many notorious hazardous chemicals, such as asbestos, arsenic, benzene, mercury and a number of dioxins, as well as a number of metals and organic chemicals whose toxic properties may, perhaps, be less well known. The remaining (Phase 2) toxic substances are not subject to the TRA requirements until two years later.

Regulated Facilities

A facility is required to comply with the *TRA* for each prescribed substance if it:

- engages in manufacturing or mineral processing operations (except physical extraction, crushing or grinding); and
- is required to provide information relating to the substance pursuant to the federal NPRI, or, in the case of acetone, pursuant to O. Reg. 127/01, Airborne Contaminant Discharge, Monitoring and Reporting, made under the *Environmental Protection Act*.

Toxic Substance Accounting

Starting January 1, 2010, regulated facilities must identify and describe how each Phase 1 substance moves through every process of the facility's operations, including how the substance is used or created, and how it is destroyed, transformed, released (into air, land or water) or contained in the product. The facility must also quantify the amount of the toxic substance that is used, created, destroyed, transformed, released and contained in the product in each process. This information forms the basis for the facility's toxic substance reduction plans and annual reports.

Toxic Substance Reduction Plan

Within a year of completing the first toxic substance accounting period, the facility must prepare a "toxic substance reduction plan" for each prescribed toxic substance. The plan must: establish objectives for reducing the use and creation of the toxic substance; identify options for reduction; provide an analysis of the feasibility of each option; identify which options (if any) will be implemented; and describe the implementation plan and expected results. Facilities must provide a summary of this plan to the ministry and make it available to the public.

Annual Reports

Every year, the facility must prepare and submit a report to the ministry that summarizes the results of the most recent toxics accounting period, and that compares those results with past reporting periods. The annual report must also describe any steps taken to help achieve the facility's toxics reduction objectives and the results of those actions. Most of the information in the report must be made available to the public.

Implications of the Decision

Reducing Toxic Substances

While the province already has a number of regulations that control chemical substances, almost all of the existing regulations focus on the traditional "end-of-pipe" release of substances into the environment. The *TRA* focuses on reducing the use and creation of toxics at the very beginning of industrial processes.

The *TRA* does not actually impose any requirements on industry to reduce the use or creation of toxic substances. However, the Act does require facilities to carefully examine how they use toxic substances in their operations and to identify and evaluate options to reduce toxics. The intention is that these exercises will highlight opportunities for reduction and encourage facilities to voluntarily reduce their toxics use. In addition, the requirement for facilities to publicly disclose their toxics accounting reports and summaries of their toxic substance reduction plans could also create public pressure to implement the plans.

It is hard to predict how effective the *TRA* will ultimately be at reducing the use, creation and release of toxics. Many stakeholders note that the existing federal NPRI program already requires facilities to track and report releases of the very same substances as the *TRA*, and therefore question how much more the added layer of *TRA* requirements will drive toxics reductions.

Many stakeholders also question whether the *TRA*'s focus on reducing the use and creation of toxics provides the greatest benefit. Reducing the use and creation of toxics should, in most cases, result in a corresponding reduction in toxics releases and exposure; in some circumstances, where there is no risk of exposure (because the toxics are chemically stabilized or transformed), reducing toxics use may provide no real benefit for human health or the environment.

Informing the Public

The second of the *TRA*'s two stated purposes is to better inform the public about toxic substance use in Ontario. To meet this goal, regulated facilities are required to publish detailed information about their current toxics use and their plans for reduction on the facility's website. The reported information will provide a new source of data not just for the public, but also for government decision-makers, which should help inform future policy decisions relating to toxics. The Ontario government also plans to establish a user-friendly website that will help the public more easily find the information provided by the facilities on toxics in their communities and to monitor the progress of facilities.



As with the first goal of the *TRA*, many industry stakeholders believe that this second purpose is already being met through the existing NPRI. However, the *TRA* requirements for reporting and disclosure go much further than the NPRI, and along with the new provincial website, can be expected to provide a broader and more accessible source of information.

Cost and Regulatory Implications for Industry

The *TRA* imposes a number of new requirements on regulated facilities, which go well beyond the facilities' current activities under the NPRI program. The costs and resources required to comply with the *TRA*'s new requirements are not yet known; however, some industry stakeholders assert that the costs of the new regulatory burden will be disproportionately high compared to the anticipated benefits of the program.

Public Participation & EBR Process

MOE undertook consultations on the toxics reduction strategy in three stages: on the proposed general strategy; on Bill 167 – the *Toxics Reduction Act, 2009*; and on O. Reg. 455/09 under the *TRA*.

Despite three rounds of consultation, many industry commenters expressed dissatisfaction with the consultation process and expressed frustration that their input was not, in their opinion, being duly considered.

ECO Comment

The ECO applauds the Ontario government for its commitment to reducing toxic substances in the environment and supports the key principles underlying its toxics reduction strategy: that facilities should be aware of how they use toxics; facilities should reduce their use of toxics where possible; and the public should be entitled to know where and how toxics are being released into the environment and used in products.

The ECO also supports the aim of the *TRA* to shift the focus from the "end of pipe" management of chemical substances to the front-end use and creation of these substances. While the existing federal NPRI program focuses on gathering and publishing information on industrial emissions – and is indeed a valuable source of information on industrial releases – the driving intent of the *TRA* is toxics reduction. The *TRA* forces companies to seriously examine their processes, and through this self-examination, identify opportunities to reduce their use and creation of toxic substances.

Although the *TRA* creates new regulatory burdens for industry, it seeks to provide flexibility to facilities in reducing toxics. Rather than taking a prescriptive approach, such as mandating reductions of certain toxics (which would presumably impose greater costs to industry), the province opted to establish a voluntary approach that allows businesses to identify their own economically viable opportunities for reducing toxics. This type of program has achieved success in other jurisdictions and is an appropriate approach to regulating the use of toxics in Ontario.

While the ECO supports the *TRA*, the ECO has serious concerns about how this new legislation was developed. The province may have proceeded with unnecessary haste in drafting, passing and implementing the *TRA* and its supporting regulation in just 16 months. While the ECO appreciates the desire for quick action, this objective must be balanced against the need for careful consideration and proper consultation of proposals to ensure that the best policies are made. In this case, it seems that quick drafting and rushed consultations caused unnecessary problems and avoidable stakeholder anxiety. Better consultation and communication could have helped to achieve greater stakeholder buy-in and resolve controversial issues earlier.

For example, one of the big issues of concern for many industry stakeholders was which criteria should trigger the *TRA* requirements. In the proposed regulation, the *TRA* requirements would have been triggered for certain substances even if the substance was never emitted or was completely consumed in the manufacturing process (such as nickel in stainless steel products). When the regulation was passed in December 2009, the provision was revised to state that there must be a "release, disposal, or transfer for recycling" for all substances in order for the Act's requirements to apply. Many industry stakeholders viewed this amendment as a welcome acknowledgement of

their concerns. However, on April 1, 2010, MOE again amended the regulation to better align with the federal NPRI reporting requirements, with the result that some substances will again be captured under the TRA even if there is no release to the environment. The ECO is troubled by MOE's flip-flopping on this provision, which caused confusion for the public. The ECO is even more dismayed that the ministry never even alerted the public to the impacts that these changes will have.

For a more detailed review of this decision, please refer to Section 4.7 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

4.3 Not Airtight: Amendments to Ontario's Air Quality Regulation

Ontario is home to a range of industries, commercial operations and institutions, which regularly emit air pollutants. These pollutants contribute to health problems, such as asthma and other respiratory conditions, as well as environmental problems, such as smog and contamination of Ontario's lakes and soils.

In 2005, to improve the province's air quality and better protect public health from the impacts of air contaminants, the Ministry of the Environment (MOE) introduced O. Reg. 419/05, Air Pollution – Local Air Quality, made under the *Environmental Protection Act* (EPA).

O. Reg. 419/05 provided a much-needed overhaul of the province's regulatory framework for industrial air emissions. The regulation established new requirements for dispersion modelling and emissions reporting, as well as more up-to-date air quality standards (i.e., limits on the maximum permitted concentration of discharged contaminants at a facility's property line) for many substances.

Since 2005, the ministry has developed 59 new or updated air quality standards, which are generally much stricter – some as much as 100 times stricter – than the earlier standards. These new or updated standards have been set based on health and environmental effects, without considering economic constraints. This means that the concentration limit is set at a level that is believed, based on the best available science, to be safe for human health and the natural environment.

When passed in 2005, O. Reg. 419/05 provided facilities with two compliance options:

- (1) A facility may meet the prescribed air quality standards for each contaminant discharged by the facility by the required date (i.e., February 1, 2010 or February 1, 2013), and demonstrate compliance with these limits through an Emission Summary and Dispersion Modelling (ESDM) Report.
- (2) If it is not technically or economically feasible to meet the air quality standards by the applicable phase-in date, a facility may apply for a "site-specific alteration of a standard." This process requires the facility to complete: an ESDM Report; a technology benchmarking report; public consultation (including at least one public meeting); and an action plan to implement and monitor progress.

Sector-Based Technical Standards

On December 22, 2009, the province amended O. Reg. 419/05 to establish a third option for compliance with O. Reg. 419/05. Rather than require each facility facing challenges meeting the air quality standards to apply for an individual site-specific alternative standard, the amendments authorize MOE to develop sector-based technical standards that can apply to multiple facilities experiencing common issues.

The details of each technical standard are set out in the ministry's Technical Standards to Manage Air Pollution. This publication sets out the list of industry sectors, contaminants and sources of contaminants that are included in the standard, the steps facilities must take to comply with the standard, and the timelines for compliance. The standards may include technical and operating requirements (such as mandatory equipment and operating, maintenance and engineering practices) as well as requirements for public notification and consultation.

Facilities that wish to rely on a technical standard must apply to MOE to register under the standard. The MOE Director can refuse an application or revoke a registration if the Director believes that air emissions from the facility may cause an adverse effect that would be better prevented if the technical standard were not applied. Registered facilities that comply with all the requirements in the technical standard by the specified deadline are exempt from the air quality standards in O. Reg. 419/05 for any contaminants covered in the technical standard.

The sector-based approach should reduce the administrative burden for MOE, as well as reduce the costs and regulatory burdens on facilities seeking relief from compliance with the air quality standards. Not only is the registration process for the sector-based technical standards simpler than the site-specific alteration of standards process, the sector-based approach will also provide ongoing regulatory relief for registered facilities, particularly from the rather onerous ESDM and reporting requirements. The sector-based technical standards should also ensure that technical and operating requirements are applied more consistently across a sector, creating a more level playing field within industry sectors than the site-specific alternative process.

To date, the ministry has established two sector-based technical standards: one for the "forest products" sector and one for the "foundry" sector.

Public Participation & EBR Process

MOE carried out a commendable public consultation process on this proposal, providing a 90-day Environmental Registry comment period and several stakeholder consultation sessions. The ministry received 45 comments on the proposal from industry groups, environmental non-governmental organizations (ENGOS), municipal public health units (PHUs) and environmental consultants.

Industry commenters generally supported the sector-based approach, stating that it was an improvement over the more onerous site-specific alternative process. Conversely, many PHUs and ENGOS opposed the proposal, commenting that the amendments undermine the environmental protections provided by the air quality standards. These stakeholders raised many concerns, including the proposal's failure to: require registered facilities to submit ESDM reports; include expiry dates or mandatory review periods for the sector-based standards; consider cumulative effects; and include requirements for public notification and consultation.

MOE's decision notice was clear and informative and provided useful summaries of the comments received and the changes made. In response to stakeholder concerns, MOE added a new authority to develop an "equipment standard" for a single source of contaminants (such as a wood waste combustor) that can be applied to multiple sectors, as well as the authority for MOE to require a facility to provide an ESDM report. MOE also prescribed the new facility registrations under the EBR, requiring these proposals to be posted on the Environmental Registry for public comment.

ECO Comment

Ontario's general framework for regulating air emissions provides a reasonable and balanced approach. It allows the ministry to set a high bar through its environmental and health-based air quality concentration limits, and then places the onus on facilities to either meet those limits or demonstrate that they cannot due to technological and/or economic barriers. This approach is preferable to setting concentration limits based on what is achievable for all facilities, which would result in standards that reflect the lowest common denominator. This approach also appropriately acknowledges the challenges for certain facilities or sectors to feasibly meet all of the air quality standards.

However, for this regime to succeed in maximizing emission reductions, the ministry must ensure that its policies for exempting facilities from the air quality standards remain rigorous. The new amendments provide the ministry with considerable latitude to develop sector-based technical standards (i.e., there need only be two facilities within a sector that cannot technically or economically feasibly comply with the air standards). The ECO hopes that the ministry will use the alternative approaches (both the site-specific alterations and the sector-based technical standards) sparingly and only when compliance with the air quality standards is truly unachievable. If applied too widely, the sector-based approach could negate much of the benefit of the recently developed air quality standards, normalizing long-term non-compliance of the air quality standards and transforming the legally binding standards into mere objectives or targets.

The ECO believes that MOE's claims regarding the potential of the new sector-based approach to improve environmental protection are overstated. This approach could achieve some emission reductions by bringing otherwise non-compliant facilities into the sector-based system. However, on a whole, the new sector-based approach provides a reduced level of environmental protection compared to the regulatory air quality standards and the site-specific alternative standards.

The sector-based standards do not include concentration limits and will allow registered facilities to emit higher levels of toxic emissions than under the air quality standards. Moreover, there is no expiry date for facility registrations (unlike the site-specific alternative standards, which last only five years), nor any requirement for the periodic review of the technical standards. Thus, the sector-based approach fails to encourage innovation or set a path for continuous improvement to reduce



emissions, even where new technologies become available or costs come down. The technical standards also allow facilities within the foundry and forest products sectors to defer compliance with the new air quality standards for lead and acrolein for several more years.

In some cases, the sector-based approach could potentially discourage facilities from making greater environmental improvements. Because any facility – even one that can feasibly comply with the air quality standards – can register under an applicable technical standard, some facilities that might otherwise have worked to meet the air quality standards might now choose to rely on the less stringent technical standards instead.

To ensure that the new sector-based technical standards actually push reductions in air emissions and improve air quality, the ECO urges the ministry to ensure that the technical standards embrace innovation and reach well beyond existing requirements. If the technical standards simply adopt requirements that are already widely included in Certificates of Approval and best management practices, the new sector-based approach will not result in significant emission reductions. Similarly,

the ECO urges MOE to vigilantly use its powers to refuse or revoke a facility's registration under a technical standard where the ministry believes that the facility's emissions may cause an adverse effect.



The ECO also urges the ministry to include emission reporting requirements in all sector-based technical standards. Removal of public reporting requirements contributes to a loss of public scrutiny and reduced pressure for the ministry to impose further emission reductions. Further, without full ESDM reporting, there will be no way to track progress in emission reductions and assess the effectiveness of the technical standards. The ECO urges the ministry to track and report publicly on the progress of the technical standards in reducing emissions, starting by developing and publishing baseline information (such as current emission levels) for the sectors subject to technical standards.

The ministry should also set performance objectives for the technical standards. Where standards do not meet the performance objectives, and/or where new technologies become available or costs come down, the ECO strongly urges the ministry to review and revise the technical standards to ensure that industry makes continual improvements to reduce emissions.

The ECO also urges the ministry to ensure that this new reform is supported by adequate inspection and enforcement capacity. With no ESDM reporting requirements under the sector-based standards, and thus no means to assess the level of contaminants being emitted, a strong site inspection program is critical to ensure that facilities are not causing adverse impacts on the environment or public health.

Finally, MOE has acknowledged for years that more work is required to address the cumulative impacts of air emissions; yet little improvement has been made in this area. Assessing and controlling cumulating loadings of toxic emissions is important to ensure that the environment and the public are not exposed to harmful levels of pollutants. Unfortunately, the removal of reporting requirements in the sector-based standards further reduces the ability of the ministry to calculate total pollutant loadings and address the cumulative impacts of pollutants released to the environment.

The ECO encourages the ministry to move forward on efforts to track and control cumulative loadings of air pollutants.

Recommendation 7

The ECO recommends that the Ministry of the Environment include reporting requirements in all sector-based standards to ensure that information on industrial air emissions remains publicly available.

For a more detailed review of this decision, please refer to Section 4.12 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

4.4 How's the Air on Your Street?

A glance at the streets of any town or city across Ontario will find ever-increasing numbers of commuters opting for a greener way, turning to pedal or pedestrian power. We know this is better for the planet, and we feel sure that getting physically active must be better for our health too. Of course there are occasional summer smog episodes when we have been told to avoid strenuous exercise. Aside from such episodes, we trust we will have reasonably good air quality to breathe on the streets where we walk, cycle and run our errands.

But who is actually monitoring air quality at "nose level" in urban areas? The ECO asked this question in 2007. We found that the Ministry of the Environment (MOE) runs a network of 40 stationary air monitoring stations across the province, but these stations are intentionally located away from point sources of air pollution or high traffic areas. MOE's monitoring stations are designed to provide only "a broad regional perspective on air pollutants." There are simply too few of them to identify hot spots or to provide reasonable coverage of Ontario's population centres.

The ECO's 2007/2008 Annual Report (see page 60) pointed out that many cities in Europe have very sophisticated air monitoring systems. For example, the Greater London Area in the United Kingdom is served by over 200 continuous air monitoring stations that provide Londoners with real-time data about local air quality. The ECO recommended in 2007/2008 "that MOE expand its air quality monitoring and reporting program to include a network of street-level monitoring stations." MOE has yet to act on this recommendation.

MOE may not be taking the lead on street level air monitoring, but other groups in Ontario definitely are exploring the practical implications of local air pollution hot spots and traffic corridors. To understand who is working on local air quality issues, the ECO commissioned a small study in late 2009. The resulting report is available on the ECO's website, at www.eco.on.ca, and is summarized below.

The ECO learned that several large Ontario municipalities – including Ottawa, the Region of Halton, and Toronto – have been proactively assessing their local airsheds. A number of other municipalities are interested in doing the same. In places like Hamilton and Sudbury, partnerships involving industry and citizen groups are leading such work, rather than the municipality *per se*. Municipalities have some very pragmatic reasons for examining their local air quality. Neighbourhoods may be asking for help to cope with chronic road dust problems. Planners may need air quality information to help set

separation distances between new subdivisions and highways. There may be emissions from industry causing conflicts between dischargers and nearby residents.

Municipalities have found that MOE's provincial monitoring network of 40 stations is too coarse a screen to be helpful for local air quality concerns. For example, as of 2004, MOE was operating only a single air quality monitoring station in the Ottawa region, an area covering 2,700 square kilometres. The City of Ottawa requested that MOE install a second station, which the ministry agreed to do. Similarly, Halton Region is served by only two MOE-operated stations, both in the southern portion of Halton, even though the region's population is expected to grow by 400,000 people between 2001 and 2031. In 2008, the Region of Halton decided MOE's coverage was inadequate, and decided to fund and operate a third monitoring station towards the north of the region. Similarly York Region, with a rapidly growing population of over one million people and an area of 1,700 square kilometres, is served by only one MOE air monitoring station.

Faced with limited data and limited resources, municipalities have opted for computer-generated airshed models validated by air monitoring, as helpful and relatively affordable starting tools. Computer models can provide communities with reasonable predictions and visual depictions of their local air quality issues and potential trouble spots. Over the last decade, Toronto and Halton Region have assessed their local airsheds using models supplemented by stationary and portable air monitoring, while Ottawa has assessed its airshed with satellite monitoring, supplemented by mobile monitoring and air modelling.

Communities have used this "model first, then monitor" approach to good advantage to identify or address a variety of local concerns, including high levels of particulate matter (PM_{10}) along traffic corridors in Toronto and high levels of fine particulate matter ($PM_{2.5}$) in downtown Ottawa. Hamilton has used mobile monitoring supplemented with air modelling to create a snapshot of air quality along roadways and along certain transects of the city. In Sudbury, extensive air monitoring has been used to assess air quality across the city but at significant cost.

MOE Involved, But Not Leading

MOE staff have certainly been supportive partners in a number of these locally-led initiatives, providing advice and expertise and sometimes undertaking monitoring work. For example, Ottawa's study was supported by two MOE mobile monitoring units; MOE's mobile unit was used for mobile monitoring conducted in Hamilton; and MOE audited Halton's air monitoring equipment. Aside from these ancillary roles, MOE has also led two projects to assess local airsheds: one ongoing multi-year study focusing on the Clarkson airshed in the west of Toronto and another in 2006 to address road dust issues in Hamilton's industrial area. But MOE's efforts have been sporadic and site-specific, and not in proportion to the growing need for assessments of local air quality in urban settings.

What Municipalities Need

The ECO's consultant interviewed public health staff in six communities to learn about their needs and priorities with respect to air quality monitoring. It should be noted that these were large and, for the most part, rapidly growing communities, such as the Regions of Peel, York, Halton and Waterloo. This study was not designed to evaluate the air quality monitoring needs of Ontario's hundreds of

smaller communities in rural and northern Ontario. There was some variations in what the ECO heard from communities interviewed – the wish list was not uniform – but there was a strong message that municipalities need better information on local air quality.

Municipalities need to make a multitude of decisions that can have an impact on local and regional air quality and on human health. For example, municipalities have considerable influence over: the density and design of subdivisions, the siting of homes, schools, day care centres, bike paths and truck depots; the mode and design of transportation routes; and the purchasing of street sweeping equipment and transit buses. Municipalities are looking to MOE for leadership assessments of local airsheds and micro-environments; the ministry is seen as the agency with both the technical expertise and regulatory authority to address ambient air quality.

At a minimum, municipalities expect MOE to continue to lead on regulating large point sources, such as industrial sites, but they would like the ministry to consider these sites with a view to the cumulative impacts of these emission sources on local air quality. Municipal representatives observed that MOE's role in air quality protection needs to evolve, to address not only large point sources, but also the cumulative impacts of mobile and area sources, such as traffic corridors and residential home heating. As municipalities become increasingly intensified, we are bound to see growing public pressure to maintain acceptable air quality in highly urbanized settings. In order to effectively manage urban air quality, we will certainly need to assess it.

4.4.1 High-Traffic Areas in Sudbury

For several years, the ECO has been commissioning summer sampling of street level air quality at selected locations, focusing on particulates and ground level ozone. In 2009, this project added five busy intersections in the City of Greater Sudbury, at the request of Clean Air Sudbury, a non-profit community group. The results of the 2009 sampling in Sudbury suggest that concentrations of fine particulates ($PM_{2.5}$) at street level near busy intersections can at times be substantially higher than concentrations measured at Sudbury's MOE regional air quality monitoring station. The consultant's report on this sampling study can be found on the ECO's website.

For ministry comments, please see Appendix C.

4.5 A Watershed Moment? Ontario Introduces the Lake Simcoe Protection Plan

Aside from the Great Lakes, Lake Simcoe is Ontario's largest inland lake. The Lake Simcoe watershed is a mix of agricultural, natural and urban lands and is considered a prime cottage and fishing destination. During the 1970s, the health of the lake began to deteriorate, notably impairing the ability for lake trout and other cold water fish species to reproduce naturally. In June 2009, the Ministry of the Environment (MOE) finalized the Lake Simcoe Protection Plan (LSPP or the "Plan"), established under the *Lake Simcoe Protection Act, 2008 (LSPA)*, to address water quality concerns and other threats to the watershed. The plan includes a range of targets, indicators and 119 policies aimed at protecting and restoring the ecological health of the watershed.

Description of the Lake Simcoe Watershed

The Lake Simcoe watershed contains a portion of the Oak Ridges Moraine (regulated under the *Oak Ridges Moraine Conservation Act, 2001*) and the provincially designated Greenbelt (regulated under the *Greenbelt Act, 2005*). Because of its proximity to Toronto, the watershed is under intense development pressures. Agricultural and natural lands north of the Greenbelt are currently being converted to residential and urban lands. In the last 20 years, the population in the watershed has grown substantially and is anticipated to further increase as a direct result of the Growth Plan for the Greater Golden Horseshoe under the *Places to Grow Act, 2005*.



Lake Simcoe in its pristine state is a natural oligotrophic lake (i.e., a clear lake that is low in nutrients and algal growth, but high in dissolved oxygen); its fish community has 55 cold, cool and warm water species.

Phosphorus occurs naturally in water bodies and is an essential element for all living things. However, increased phosphorus loadings into a water body feeds algal blooms and increases aquatic plant growth, a process known as eutrophication. Increased phosphorus loading causes dissolved oxygen concentrations to decrease in the bottom layer of a water body in the summer, which starve cold water fish of oxygen and create "dead zones". Extensive phosphorus loading during the 1970s to 1990s led to eutrophication and hypoxic conditions (low dissolved oxygen levels) in the deep waters of Lake Simcoe.

Lake trout and other cold water species depend on cold, well-oxygenated water (greater than 7 mg/L of dissolved oxygen), particularly in the summer months, to swim, feed and grow. Natural recruitment of cold water fish species, such as lake trout, lake whitefish and lake herring, began to decline in the 1960s, 1970s, and 1980s, respectively. Lake trout and lake whitefish populations are maintained or supplemented through hatchery stocking programs. Since 2001, several wild juvenile lake trout have been captured and natural recruitment of lake whitefish and lake herring populations have also occurred. Lake trout, as a top predator, is essential to maintaining the structure of the aquatic community in Lake Simcoe. Hatchery lake trout are currently the dominant predator in Lake Simcoe and have reduced the abundance of rainbow smelt and probably lake herring. Without lake trout, stocked or wild, the fish community would restructure in an undesirable way.

The Lake Simcoe Environmental Management Strategy, a multi-partner program, began in 1990 to identify, measure and reduce the sources of phosphorus entering Lake Simcoe. Through a number of initiatives, such as agricultural and urban water quality improvement projects, the strategy was successful at reducing phosphorus loadings in the watershed. Despite the success of the strategy, phosphorus loadings must be reduced even further to improve the ecological health of the watershed and to maintain a native self-sustaining cold water fish community.

In response, M^{OE} passed the *LSPA* in December 2008 to "protect and restore the ecological health of the Lake Simcoe watershed." In addition to requiring the creation of the Lake Simcoe Protection Plan, the Act also establishes a Lake Simcoe Science Committee and a Lake Simcoe Coordinating Committee. The ECO reviewed the *LSPA* in our 2008/2009 Annual Report (see pages 25-29).

What is a Watershed?

The LSPP is unlike any other legislated land use plan in the province – it is based on a watershed boundary. A watershed is the catchment area, including both land and water areas, drained by a watercourse and its tributaries. A watershed is a linear directional system – downstream is an integration of all that happens upstream. By planning at this scale, instead of by political boundaries, land use planners can identify harmful and cumulative impacts to the watershed so that prevention, remediation or improvements can be made at a local level.

Integrated watershed management is the process of managing human activities and natural resources in an area defined by watershed boundaries. Conservation authorities (CAs), as established under the *Conservation Authorities Act*, are organized on a watershed basis, and approximately two-thirds of CAs have or are carrying out watershed studies or plans in the province. There is no comprehensive water policy or legislation in Ontario that guides integrated watershed management planning. As a result, interpretation of policies and implementation of integrated watershed management plans vary across the province.

First Steps: Implementing the Lake Simcoe Protection Plan

In February 2010, MOE posted three proposals on the Environmental Registry to facilitate the implementation of the Lake Simcoe Protection Plan (LSPP): the phosphorus reduction strategy; the water quality trading feasibility study; and a discussion paper on the shoreline regulation (Environmental Registry #010-8986, #010-8989, and #010-9107, respectively). MOE identified potential amendments to the Plan related to the implementation of the phosphorus reduction strategy, to revise timing for delivery of select strategic action policies, and for administrative purposes.

The Lake Simcoe Phosphorus Reduction Strategy was developed by MOE and a multi-agency team. The strategy sets sector specific targets, proportionally based on their current phosphorus loading contributions. Currently, phosphorus loadings to Lake Simcoe come from watershed streams (including runoff from agriculture and urban areas) (56 per cent), the atmosphere (27 per cent), sewage treatment plants (7 per cent), septic systems (6 per cent), and the Holland Marsh and former wetlands that were drained for agricultural use (4 per cent). MOE predicts that if all reductions are implemented successfully, annual phosphorus loadings would be reduced from 71.5 tonnes per year (2006–2007) to about 58 tonnes per year by 2045 – a shortfall of approximately 14 tonnes from the LSPP's long-term target of 44 tonnes per year.

In July 2010, MOE finalized the phosphorus reduction strategy and announced that it would further evaluate a number of issues related to water quality trading in Lake Simcoe. The ECO may report on these initiatives in a future Annual Report.

Implications of the Decision

Legal Effect of the Plan

Generally, policies define which agencies are responsible for their implementation (e.g., ministries, CAs and municipalities) and meeting the delivery timelines. Eighty-eight of these policies have commitments to be delivered by June 2010. The policies are divided into four categories:

- Designated – decisions made under the *Planning Act*, *Condominium Act, 1998* and decisions related to prescribed instruments must conform with these policies (e.g., major development applications must be accompanied by a stormwater management plan);
- Have regard to – decision made under the *Planning Act*, *Condominium Act, 1998*, and decisions related to prescribed instrument must have regard to these policies (e.g., when approving development along the Lake Simcoe shoreline, municipalities should ensure that public access is maintained);
- Monitoring – policies commit public bodies such as ministries, municipalities, and conservation authorities to implement monitoring programs (e.g., by 2011 the Ministry of Natural Resources (MNR), the Lake Simcoe Region Conservation Authority (LSRCA) and MOE will develop a monitoring program for natural heritage and hydrological features' targets and indicators); and
- Strategic action – are legally non-binding and include policies related to research, stewardship, education and outreach and best management practices (e.g., by 2011 MNR, LSRCA and MOE will delineate priority areas for riparian restoration).

Conformity is subject to transitional rules set in the General Regulation (O. Reg. 219/09) under the LSPA.

Prescribed instruments are defined in O. Reg. 219/09. These include sewage works approvals under the *Ontario Water Resources Act*, permission under the *Conservation Authorities Act*, *Public Lands Act* approvals, and *Lakes and Rivers Improvement Act* approvals. A decision made by a public body to issue a new prescribed instrument, or to renew or amend an existing prescribed instrument must conform to designated policies in the plan and have regard to other applicable policies.

Plan Policies and Targets

The Plan is organized into chapters that deal with specific policy themes – aquatic life, water quality, water quantity, shorelines and natural heritage, other threats and activities (i.e., invasive species, climate change and recreational activities), and implementation. Each chapter contains targets, indicators and policies. Some of the key targets include:

- To reduce phosphorus loadings to 44 tonnes per year into Lake Simcoe to achieve a dissolved oxygen concentration of 7 mg/L (the aquatic life target conditions necessary to restore a native self-sustaining coldwater fish community).
- To achieve a minimum 40 per cent high quality natural vegetative cover in the watershed.

To avoid duplication, some of the policies, such as key natural heritage and key hydrological features policies, only apply to areas of the watershed that are outside of the Greenbelt Plan or Oak Ridges Moraine Conservation Plan area. The following table provides a summary of key natural heritage and key hydrological features policies within the LSPP and compares these policies to the Greenbelt Plan

and the Oak Ridges Moraine Protection Plan. Where uses are permitted, these uses may be subject to requirements contained in each of the plans. Interested readers should consult each plan to learn about any requirements.

Table 1
Natural Heritage Policies in the Lake Simcoe Watershed

Existing or Proposed Land Use	Greenbelt Plan Natural Heritage System (Policy Overlay)	Oak Ridges Moraine Conservation Plan Natural Core Areas (Land Use Designation)	Lake Simcoe Protection Plan Key Natural Heritage and Key Hydrologic Features (Policy Overlay)
New mineral aggregate extraction operations	YES (except in significant wetlands, significant woodlands unless the woodland is occupied by young plantation or early successional habitat, & significant habitat of endangered species & threatened species)	NO	YES
Expansion of existing mineral aggregate extraction operations	YES	NO (not beyond boundary of area under licence or permit)	YES
Major recreational uses (e.g., ski hills, golf courses, serviced campgrounds)	YES	NO (only low intensity recreational uses permitted)	NO (only low intensity recreational uses permitted)
New waste management facilities (e.g., landfills, incinerators)	YES	NO	YES
Power transmission corridors	YES	YES	YES
Transportation infrastructure (e.g., public highways)	YES	YES	YES
Human settlement area expansion	NO	NO	NO

Agricultural uses (existing and new)	YES	YES	YES
Water taking	YES	YES	YES
Forest management (including wood harvesting)	YES	YES	YES

Advisory Committees

During the development of the LSPA and the strategy to protect Lake Simcoe, the provincial government appointed two advisory committees: the Lake Simcoe Science Advisory Committee and the Lake Simcoe Stakeholder Advisory Committee. The Science Advisory Committee submitted a report to the Minister of the Environment in October 2008 that identified the state of the lake and its tributaries, pressures on the watershed, ecosystem features that should be protected, and advice on appropriate management of the watershed.

The LSPA established two new advisory committees to replace the Science and Stakeholder Advisory Committees; the Lake Simcoe Science Committee and the Lake Simcoe Coordinating Committee. The nine-member Lake Simcoe Science Committee was appointed in March 2010. MOE identified that the committee's first tasks will be to provide advice on the phosphorus reduction strategy, water quality trading and the shoreline regulation. The 12-member Lake Simcoe Coordinating Committee was appointed by the Minister of the Environment in May 2010. MOE identified that the committee will provide input to the policies and measures developed as part of the LSPP, as well as monitor the Plan's implementation and make recommendations for the long-term strategy.

ECO Comment

The ECO commends the Ontario government for affording additional protection to the Lake Simcoe watershed through the Lake Simcoe Protection Plan. The Plan is ambitious in its targets and policies, as well as in the timeframes set forth to meet the objectives and priorities of the Plan, such as protecting and restoring the ecological health of the Lake Simcoe watershed. The ECO is pleased that the phosphorus, dissolved oxygen and natural cover targets are consistent with the Lake Simcoe Advisory Committee's recommendations. However, the ECO notes that the Plan is inconsistent with the Lake Simcoe Advisory Committee's recommendation to protect all wetlands within the watershed, not just those wetlands identified as provincially significant by MNR. For example, new aggregate operations are allowed in non-provincially significant wetlands, with some conditions. Protection at the "provincially significant" level may be appropriate for the Provincial Policy Statement; however, regional watershed plans should be sensitive to the structure and function of wetlands that are smaller scale and have features which may be important locally.

The ECO is generally pleased with the functions of the Science and Coordinating Committees and the roles both will play in implementing the Plan, such as providing advice on research initiatives and Plan amendments. However, the ECO is concerned that the Science and Coordinating Committees were appointed and began to meet after the shoreline protection discussion paper, Plan amendments, phosphorus reduction strategy and water quality trading feasibility study proposals

were posted on the Environmental Registry. Although MOE received advice from both committees before finalizing the phosphorus reduction strategy and deciding to further evaluate water quality trading in Lake Simcoe, the ECO believes that both committees should have been in place and provided advice to MOE during the drafting stage. The ECO encourages MOE to fully involve both committees in implementing any relevant aspects of the Plan from this point forward, for example, in developing the subwatershed guidelines or suggesting any further Plan amendments.

The ECO questions whether the policies aimed at protecting key natural heritage features, key hydrological features and shorelines, while providing more protection than the PPS, go far enough. At first glance, the Plan prohibits "development" and "site alteration" within and around these sensitive features. However, upon closer inspection there are many exemptions, with or without conditions that would allow questionable activities in these sensitive features that could compromise the objectives of the Plan. For example, infrastructure, including landfills and roads, are allowed within key natural heritage and key hydrological features provided the project has been demonstrated through an environmental assessment and there is no reasonable alternative. Also, new septic systems are permitted within 100 metres of the Lake Simcoe shoreline if it serves an agricultural use or a public open space, it replaces or expands the capacity of an existing system, or it services only one dwelling. The ECO cautions that the devil's in the details of the policies and how they are implemented on the ground. The ECO does not believe that the Plan is the "gold standard of sustainability," as the Minister of the Environment has claimed. Some policies are vague and simply provide more hoops for developers to jump through. It would have been simpler and more effective to conserve natural heritage, hydrological and shoreline features through development prohibitions.

The ECO recognises that the watershed is currently under great development pressure and acknowledges MOE's swift action to create and begin to implement the LSPA and the Plan. Although the health Lake Simcoe's watershed began to decline in the 1970s, the ECO notes that the Ontario government is trying to fix a problem it may have contributed to, through growth targets established in the Growth Plan under the *Places to Grow Act*. Since the south-eastern portion of the watershed is within the Greenbelt, development has been leapfrogging north along highway 400. For example, the proposed Simcoe area growth strategy increases the combined populations of the City of Barrie and the City of Orillia by 52 per cent or 86,100 people by the year 2031, compared to the 2006 census. The City of Barrie (through the *Barrie-Innisfil Boundary Adjustment Act, 2009*) had its boundary expanded by the Province into agricultural lands of Innisfil to accommodate growth.

Simcoe County, located in the western portion of the watershed, was not included in the Greenbelt planning area but is partially covered by the LSPP area. An important policy of the Greenbelt Plan is not included in the LSPP: the extensions to or expansions of Great Lakes or Lake Simcoe water or sewer services to settlements that are not connected is prohibited, except to address human health concerns. This policy restricts the growth of inland communities to within their local environmental carrying capacity and reserves water services from Lake Simcoe and the Great Lakes for communities located on the shorelines. The ECO strongly encourages the Ontario government to ensure that development does not leapfrog into the Lake Simcoe watershed and add additional stress to this already fragile ecosystem. This problem could be remedied in one of two ways by the Province: the Greenbelt should be expanded into Simcoe County or the LSPP should be amended to address this concern.

The ECO has commented in past annual reports that the need for site or landscape-level legislation

and plans clearly indicates that Ontario's land use planning system (i.e., the *Planning Act* and the Provincial Policy Statement) is failing to protect ecosystem features and functions. While the ECO commends the provincial government for these additional measures, often such measures come too late – once the environment has been degraded to a point of great concern. Rather than implementing measures to fix specific environmental degradation after it has occurred, the government should focus on conserving and protecting all our wildlife, wetlands, forests, lakes and rivers before they are degraded. Integrated watershed management, currently practiced by most conservation authorities, is an excellent example of how natural landscape features can be conserved and protected in Ontario's land use planning context. The ECO believes that the Provincial Policy Statement should be amended to ensure that sufficient protection is provided to all of Ontario's ecologically and hydrologically significant features through integrated watershed management planning. In addition, the Ontario government should create a comprehensive water policy to consistently guide integrated watershed management planning, to be implemented by conservation authorities, across the province.

Recommendation 8

The ECO recommends that the Ministry of Municipal Affairs and Housing amend the Provincial Policy Statement to require integrated watershed management planning.

For a more detailed review of this issue, see Section 4.5 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

4.6 The Drainage Act: Drying Up Ontario's Wetlands

Once viewed as dank wastelands, wetlands are now considered vitally important ecological features in Ontario's landscape. They filter and purify water, provide habitat for both aquatic and terrestrial species, store water during flooding and release it during droughts. Given that wetlands share features of both aquatic and terrestrial systems, they are rich in biodiversity and contain unique plants and animal species adapted to wet conditions. Despite their environmental importance, 72 per cent of Southern Ontario's pre-settlement wetlands have been lost through agricultural drainage, development, encroachment, land clearance and filling. Additionally, some landowners view wetlands on their land negatively because of land use restrictions. During this reporting year, the ECO received a number of concerns from the public about conflicts over wetland protection within the City of Ottawa. These conflicts illustrate the disconnect between agricultural drainage activities and responsible environmental planning.

Municipal Agricultural Drains

The Drainage Act (the "Act"), administered by the Ministry of Agriculture, Food and Rural Affairs (OMAFRA), directs the creation, maintenance and repair of municipal agricultural drains in Ontario. Municipal drains, including open ditches and tile drains, are used to remove water from land to increase agricultural production and productivity. Open ditches remove surface water from fields and tile drains, through underground "plumbing," remove water from the soil. Water that is removed is usually diverted into a receiving river or stream.

The Act gives legal status to municipal drains, and municipalities are responsible for their construction, improvement, maintenance, repair and operation. Landowners can petition their local municipality to carry out agricultural drainage works (e.g., the construction of a new drain) on their property. While the cost is assessed to all landowners in the drainage area, OMAFRA provides grants for a portion of the cost through the Agricultural Drainage Infrastructure Program. Under certain circumstances (e.g., for the maintenance and repair of existing drains), funding may be available for drainage projects in some wetlands.

Wetland Protection

The Ministry of Natural Resources (MNR) determines which wetlands in Ontario are considered provincially significant, using a scientific point-based ranking system known as the Ontario Wetland Evaluation System (OWES). Provincially significant wetlands (PSWs) are protected from development and site alteration through the 2005 Provincial Policy Statement (PPS), administered by the Ministry of Municipal Affairs and Housing (MMAH) under the *Planning Act*. Although MNR is responsible for identifying PSWs, wetlands must then be designated as such in municipal official plans for the PPS protection provisions to apply. Locally significant wetlands (e.g., wetlands that do not score high enough by OWES to be considered provincially significant) and unevaluated wetlands are not protected under the *Planning Act* or the PPS.

The *Conservation Authorities Act* (CAA) provides additional wetland protection. Conservation authorities (CAs), regulate development and activities in and adjacent to wetlands, including *Drainage Act* works. CAs, however, have some discretion as to which wetlands they regulate in their watershed. While some CAs regulate provincially and locally significant wetlands in their watershed, others only regulate PSWs identified in municipal official plans.

However, PSWs are not protected from all land use activities that are harmful. *Drainage Act* works (e.g., the construction of new drains or the maintenance and repair of existing drains) are allowed within all wetlands in Ontario under the PPS, including provincially significant, locally significant and unevaluated wetlands.

To protect wetlands and other natural features, OMAFRA developed a referral process for landowners and agencies (e.g., CAs and MNR) to provide input into the design and approval of drainage works. However, as a result of agency budget constraints and their inability to actually prevent the approval of drainage works, MNR and CAs often are left with little option but to recommend mitigation measures (e.g., erosion control and alterations to the drainage design). The referral process has had limited influence on drainage works and is inadequate to maintain the area of wetlands, since incremental losses continue to occur.

In addition to OMAFRA's referral process, the general public also has some opportunities to comment on proposed drainage works, such as during municipal council meetings. The *Drainage Act*, however, is not prescribed under the *Environmental Bill of Rights, 1993* (EBR), and therefore the public is unable to submit EBR applications for review or investigation related to the Act.



Photo: C. Wainman

Goulbourn Wetland Complex

In 2005, MNR confirmed the addition of 20 new wetland units to the provincially significant Goulbourn Wetland Complex, located in the City of Ottawa, formerly Goulbourn Township. Wetland complexes are two or more functionally linked wetland units that are separated by a non-wetland area. That same year, the City of Ottawa began its official plan amendment process to designate the new wetland units in the Goulbourn Wetland Complex.

Some landowners claimed that lands added to the Goulbourn Wetland Complex were not natural wetlands, but rather lands that were flooded because of poor drainage from beaver activity and unmaintained private ditches. In 2006, landowners filed a drainage petition with the municipality for an area within the Goulbourn Wetland Complex: Upper Flowing Creek (north of Flewellyn Road). Later that year, the City of Ottawa canceled and withdrew its plan to designate the wetlands evaluated as provincially significant in the wetland complex area. The city also established a Wetland Stakeholder Group to address drainage issues and concerns. In 2008, another group of landowners filed a second drainage petition for an area within the Goulbourn Wetland Complex: Hazeldean Road (west of Stittsville). As of July 2010, the city has not officially declared either drainage petition as a municipal drain.

Some landowners in both drainage petition areas altered their land (e.g., filled, drained and removed vegetation) in an effort to eliminate the wetland and remove the PSW status. Because the landowners in the Upper Flowing Creek area did not obtain permission under the CAA to alter their land, the Mississippi Valley Conservation Authority (MVCA) laid charges. However, since the charges were laid more than six months after the violation occurred, MVCA was forced to drop the case. The statute of limitations for CAs is just six months. In contrast, MNR has a two-year window under the *Public Lands Act* to lay charges on similar offences.

Ottawa's Official Plan Amendments

In June 2009, the City of Ottawa submitted an official plan amendment to MMAH as part of its five-year comprehensive official plan review. The proposed amendment included the creation of the Flewellyn Special Policy Area to "allow for correction of drainage problems and protection of provincially significant wetlands" in the Upper Flowing Creek drainage petition area. The draft amendments proposed that the wetland be designated as a "special policy area" rather than as a PSW in the city's official plan.

Initially, MMAH recommended removal of the "special policy area" designation because it was not consistent with the PPS. However, in January 2010, the ministry completely reversed its position and approved a "Flewellyn Special Study Area" to "restrict development until such time as the appropriate local studies are completed" (see Environmental Registry #010-7300). No new development is allowed in the special study area, but site alteration is not explicitly prohibited.

Wetlands in the Hazeldean Road drainage petition area are now designated as part of the provincially significant Goulbourn Wetland Complex in the city's official plan.

ECO Comment

The Goulbourn Wetland Complex story is a cautionary tale that highlights the discord in Ontario between wetland protection and agricultural drainage. Drainage works, by their very nature of dewatering land, pose a real and significant threat to wetlands in rural Ontario. While the approval of one drain petition in a wetland may seem insignificant, the cumulative impact of many municipal drains may result in significant losses of function, value and area of wetlands in a watershed. The City of Ottawa has over 700 municipal drains, totalling more than 1,200 kilometres in length. It begs the question what the cumulative impacts of 700 drains on Ottawa's wetlands have been.

The Goulbourn Wetland Complex lies just west of Ottawa's urban boundary. There is no doubt that some rural landowners oppose a PSW on their property since land use restrictions would make their land less desirable to developers. The City of Ottawa's four-year delay in designating newly identified PSWs in its official plan gave landowners the opportunity to "bulldoze" and file drainage petitions for some PSW identified areas. To the city's credit, in 2010, the City of Ottawa amended its official plan so that PSW policies apply to PSWs identified by MNR, regardless of whether they are designated by the city. The ECO encourages MMAH to ensure that all municipal official plans similarly protect undesigned PSWs.

The ECO is disappointed that MMAH failed to defend the PPS by approving a "special study area" for lands MNR confirmed, on several occasions, to be included within a PSW complex. The ECO believes that MMAH should have required the city to designate all PSWs identified by MNR in its official plan. Creation of a special study area for a portion of a PSW complex confirmed by MNR is not consistent with the PPS because it allows site alteration within a PSW – which is explicitly prohibited by the PPS. Site alteration, such as grading, excavation and the placement of fill in a wetland, can destroy fish and wildlife habitat, impair water quality, and destroy or damage its ecological functions. Placing fill in wetlands can also increase downstream flooding because it reduces water storage in the floodplain.



Photo: C. Wilkinson

The ECO is pleased that Bill 68, the *Open for Business Act, 2010*, includes proposals to amend the CAA and extend (from six months to two years) the period within which CAs may prosecute regulation violations, including development and site alteration in and around wetlands. It can be difficult for CAs to collect evidence within six months of an offence, especially with respect to site conditions in wetlands during the winter months. The ECO believes that the proposed CAA amendment will enable CAs to successfully prosecute more landowners who damage or destroy wetlands in southern Ontario.

MNR and CAs are unable to stop works under the *Drainage Act* through the referral process established to protect wetlands and other natural features. While the *Planning Act* and PPS require developers to demonstrate that there will be no significant impacts on a PSW before project approval, the *Drainage Act* wrongly puts the onus on the referral agencies to show that there would be an impact on the wetland. The ECO believes that OMAFRA should review and amend the archaic *Drainage Act* and its associated policies to ensure that the features and functions of wetlands are protected and conserved. The government has made no progress on a similar recommendation

in our 2004/2005 Annual Report that OMAFRA, MNR and the Ministry of the Environment (MOE) review public policies related to drainage and stormwater management. Furthermore, given the environmental significance of this piece of legislation, the ECO believes that MOE and OMAFRA should prescribe the *Drainage Act* under the *EBR*.

Agricultural drains threaten wetlands by removing water – the very substance that is critical to their existence. In Ontario, agricultural drains have contributed to and continue to contribute to the degradation, fragmentation and loss of wetlands. Rural land owners in the City of Ottawa were able to use the *Drainage Act* to bypass provincially significant wetland protection provisions in the PPS. The ECO believes this was possible because of conflicting provincial legislation and policies related to wetland protection in Ontario. While the PPS and the *Planning Act* protect PSWs from urban development, it does not protect PSWs from agricultural drainage under the *Drainage Act*. Additionally, OMAFRA provides grants for drainage works within wetlands. The ECO believes that if the provincial government continues to allow and provide funding for municipal drains in wetlands, it is inevitable that this loss will continue. The ECO believes that the PPS should be revised to restrict *Drainage Act* works, particularly new and petition drains, in provincially and locally significant wetlands.

Recommendation 9

The ECO recommends that the Ministry of Agriculture, Food, and Rural Affairs amend the *Drainage Act* and its policies to ensure that provincially significant wetlands are protected from being drained.

For ministry comments, please see Appendix C.



Part Five
Modernizing Mining in Ontario

In the 1800s, miners used picks and shovels to find and extract minerals. Embarking out into the wilderness of Ontario, prospectors had "free entry" to access any land that contained Crown-owned minerals. They could stake their claims with wooden posts and acquire mineral leases with no need to consider the interests of property owners or the public. This right of free entry was a fundamental feature of Ontario's first mining laws and was designed to promote mining activity, create wealth in the province and encourage the settlement of northern lands.

Much has changed in Ontario since the *Mining Act* (the "Act") was enacted in 1869. First, there are many more recognized uses for Ontario's land than mining. Second, early mines were generally small in scale with a relatively small ecological footprint; modern day mining often involves large-scale

and mechanized digging, drilling and blasting, with the potential to have significant environmental impacts. Finally, the public has grown more concerned about our natural environment and the impacts of human activities, expecting environmental risks to be mitigated and mining lands restored.

Although the *Mining Act* and the concept of free entry may have worked in the 19th century, it is clearly at odds with 21st century land uses and values. Free entry assumes that mineral development is appropriate almost everywhere and that it is the "best" use of Crown land in almost all circumstances, giving mining priority over forestry, commercial development, recreation and tourism, the interests of Aboriginal communities, and the conservation of ecologically significant species and landscape features.

Approximately 1.4 per cent of the land in southern Ontario and 0.4 per cent of the land in northern Ontario consist of properties where the land owner holds the surface rights but the Crown holds the mineral rights. These properties are termed surface rights only (SRO) properties. Free entry has allowed staking and exploration on SRO properties without the surface owner's consent or consultation. Likewise, the Ontario government has provided few tools to ensure that Aboriginal land claims and treaty rights are safeguarded, allowing staking and exploration on traditional Aboriginal and treaty lands without consultation. As might be expected, the free entry system has resulted in conflicts between mining companies, private property owners and Aboriginal communities.

The public and the ECO have repeatedly called on the government to brush the dust off this outdated piece of legislation and make it reflect today's values and land uses. In our 2006/2007 Annual Report, the ECO recommended that the Ministry of Northern Development, Mines and Forestry (MNDMF) "reform the *Mining Act* to reflect land use priorities of Ontarians today, including ecological values."

5.1 Reforming the *Mining Act*

In response to calls from stakeholders, the ECO and the public, the government agreed to review and revise the *Mining Act*. On October 28, 2009, Bill 173 (the *Mining Amendment Act, 2009*) received Royal Assent, concluding a multi-year process to bring Ontario's *Mining Act* into the 21st century.



Amendments to the *Mining Act* made through Bill 173 include:

- amending the Act's purpose to encourage mining activities "in a manner consistent with the recognition and affirmation of existing Aboriginal and treaty rights," including the duty to consult;
- giving the government the authority to pass regulations establishing a "map staking" system by which claims can be staked on a map rather than on the ground;
- requiring prospectors to receive awareness training on amendments to the Act;
- providing for the withdrawal of Crown mineral rights where surface rights are privately held;
- expanding the list of lands where no claims may be staked except with permission of the Minister of Northern Development, Mines and Forestry (the "minister");
- requiring the filing of exploration plans for lower impact activities and requiring exploration permits for higher impact activities;
- requiring prospectors to notify SRO property owners of claims staked on their land within 60 days;
- incorporating consultation with Aboriginal communities in mining legislation and regulations;
- introducing a dispute resolution process for Aboriginal-related mining issues;
- prohibiting staking or the establishment of a new mine in the "Far North" if there is no community-based land use plan for the area, or if the land use designation is "inconsistent" with mineral exploration and development;
- giving the government the authority to pass regulations allowing claim holders to make payments in lieu of conducting annual assessment work (e.g., bedrock trenching, exploration drilling, geotechnical surveys) to keep a claim in good standing; and
- increasing the maximum fine and length of imprisonment that a judge can impose on a convicted contravenor for offences under the Act.

It is important to note, however, that many amendments to the *Mining Act* will not come into force until "a day to be named by proclamation of the Lieutenant Governor."

Implications of the Decision

Certainty for the Mining Industry

To provide certainty of investment to shareholders and prospective financiers, mining companies must be reasonably confident that staked claims will be able to proceed to lease, exploration, title and mineral extraction. The amended *Mining Act* maintains this certainty in a number of ways.

First, the amended Act allows prospectors to continue staking claims without first notifying SRO property owners, Aboriginal communities or other stakeholders. This should reassure most exploration companies that private knowledge about lands of mineral interest will not be shared with competitors. Second, mining companies are assured that mineral rights and tenure that existed on private property in southern Ontario prior to the date Bill 173 was passed into law will be unaffected by the withdrawal provisions in the Act. (In northern Ontario, mineral rights and tenure on private property will be unaffected by the Act's withdrawal provisions if they existed before the relevant amendment is proclaimed.) Third, the Act attempts to pre-empt conflicts between mining companies and Aboriginal communities by requiring that exploration plans undergo appropriate Aboriginal consultation and by introducing a formal dispute resolution process for Aboriginal-related issues.

While Bill 173 increases certainty in some areas, mineral companies considering doing business in Ontario remain concerned that several important implementation details are yet to be prescribed in regulations. These include:

- the requirements for exploration plans and permits;
- requirements that proponents undertake Aboriginal consultation;
- the definition of "Far North"; and
- the specific components of community-based land use plans.

Until these regulations are passed, much uncertainty remains for industry concerning the impacts of this legislation.

Security for Surface Rights Owners

The amended Act improves the rights of land owners who hold only the surface rights to their properties. Most notably, the amended Act withdraws SRO properties in southern Ontario from prospecting, staking, sale and lease. Moreover, the amendments require proponents to notify SRO property owners of claims staked on their property and MNDMF to consider arrangements made with these land owners when issuing an exploration permit.

The Act, however, creates a double standard in that property owners in northern Ontario who do not hold the mineral rights on their property must apply to the minister to have their lands withdrawn. For these property owners, the security that their land will not be staked and possibly developed is at the discretion of the minister. Moreover, as of August 2010, the section of the Act allowing a property owner in northern Ontario to request a withdrawal had not yet been proclaimed. Because pre-existing claims are unaffected by a withdrawal order, until this provision is proclaimed SRO property owners in northern Ontario are unable to request a withdrawal and mining companies can stake on these properties without worry that their claims will be annulled. Finally, because the Act does not reunite surface and mineral rights, but simply withdraws SRO properties in southern Ontario from staking, the government could potentially reverse this withdrawal in the future and reopen these lands to staking, sale and lease.

Rights of Aboriginal Communities

With the passage of Bill 173, Ontario becomes the first jurisdiction in Canada to expressly recognize Aboriginal and treaty rights in its mining legislation. As a result of provisions in support of the new purpose, Aboriginal communities should have some control over where mining activities can occur and the imposition of any restrictions on exploration activities needed to minimize the impacts on Aboriginal communities.

There is nothing in the amended Act, however, that requires consultations with Aboriginal communities prior to staking claims on Aboriginal or treaty lands or even notification after a claim has been staked. Furthermore, Bill 173 does not require proponents to develop Impact Benefit Agreements or revenue sharing between mining companies and affected Aboriginal communities. And despite the provision requiring consistency with land use plans, the government may permit a new mine opening in the Far North if a project is in "the social and economic interests of

Ontario." Future regulations will spell out important details, including the requirements of Aboriginal consultation, details of the dispute resolution process, and how sites of "Aboriginal cultural significance" will be determined.

Environmental Protection

Provisions in the amended Act might help reduce the environmental impacts of mining activities in several ways:

- community-based land use plans, once developed, could prevent the opening of new mines in certain ecologically or culturally significant areas of the Far North;
- increased penalties for offences against the Act may improve compliance with the Act's provisions;
- the phased introduction of map staking will help reduce the relatively minor impact of ground staking; and
- a broadening of the list of lands protected from staking will limit the lands on which mining activities can occur.

Moreover, the graduated regulatory scheme for exploration activities may potentially lessen the environmental impacts of mineral exploration. As with so many other components of the Act, the effectiveness of community-based land use plans, exploration plans and exploration permits in protecting the environment will depend on details to be spelled out by future regulations developed under the amended Act.

Increased Ministerial Discretion

The amended Act gives increased powers to the minister to manage mineral exploration and development. For example, the minister has the power to:

- allow staking on land that is otherwise withdrawn;
- accept/reject requests from SRO property owners in northern Ontario to have their land withdrawn from staking;
- impose restrictions on mining claims if portions of the lands are of Aboriginal cultural significance; and
- revoke a licence of occupation if lands are being used for other than mining purposes.

Broad discretionary powers create the opportunity for political considerations and personal values to play a role in important decisions, generating uncertainty for the mineral industry, Aboriginal communities and SRO property owners.

Map Staking

Allowing prospectors to stake claims via map staking will:

- enable prospectors to stake land that was previously inaccessible because of remoteness or difficult terrain;

- allow the more efficient and accurate staking of lands;
- level the playing field where it is too expensive for prospectors with limited finances to operate; and
- eliminate the impact of ground staking on the environment, including on Aboriginal lands and SRO properties.

Permitting map staking, however, may also reduce the local economic activity associated with conventional prospecting, including supply and food services, transportation, hospitality and equipment supply. Moreover, depending on the system developed, map staking will potentially allow highly capitalized companies to stake large tracts of land.

Public Participation & EBR Process

MNDMF undertook consultation on amendments to the *Mining Act* in three stages using three separate Environmental Registry proposal notices:

1. consultation on proposed amendments to the Act regarding claim staking and mineral exploration on property where mineral rights and surface rights are held separately;
2. consultation on a discussion paper on modernizing the Act; and
3. consultation on Bill 173.

MNDMF received over 1,000 comments via the Environmental Registry on these proposals. In addition to public participation opportunities provided through the Registry, MNDMF also consulted over 1,000 individuals and groups in public and stakeholder meetings and 20 prospector/industry sessions, and consulted approximately 100 First Nations in 40 workshops and sessions.

Commenters on the three proposals included: members of the general public; SRO property owners; municipalities; environmental non-governmental organizations (ENGOS); conservation authorities; the prospecting industry; the mining industry; lawyer's associations; agriculture associations; and others. Supporters and opponents of the proposed amendments were equally passionate in their convictions. Some felt that the proposed framework for regulating exploration activities and protecting the rights of Aboriginal communities and private property owners jeopardizes the future success of the mining industry. Others argued that the amendments do not go far enough to ensure environmental protection and effective municipal land use planning.

Other Information

In July 2008, the Premier announced government plans to protect at least 225,000 square kilometres of the Far North Boreal region under the Far North Land Use Planning Initiative. In June 2009, the Minister of Natural Resources tabled Bill 191, the *Far North Act, 2010*, in the Legislature for First Reading. On the same day, MNR posted a proposal notice on the Environmental Registry (#010-6624) soliciting comments on Bill 191. Bill 191 proposes to deliver on commitments made in the Premier's July 2008 announcement, and "enable a formal land use planning process with the First Nations in the Far North that will result in community-based land use plans that will designate protected areas and identify areas where sustainable economic development may occur." Bill 191 received Second Reading on June 3, 2010.

In December 2009, MNDMF posted a policy proposal notice on the Registry (#010-8656) soliciting input on eight key areas that "need to be addressed in order to develop appropriate regulations" under the amended *Mining Act*. The notice, which provided a generous comment period of 127 days, noted that different sections of the *Mining Act* will be proclaimed "once the relevant details are developed." The ECO will review these regulations in future reports.

ECO Comment

Considering the wildly divergent views of stakeholders, the amended *Mining Act* strikes a reasonable balance between meeting the interests of the mining industry and private property owners. What is missing from this mix, however, is an equivalent reflection of the concerns raised by ENGOs and the public for better measures to minimize the impacts of mining activities on the environment.

While the Act includes some environmental protections related to regulating mine rehabilitation and preventing immediate and dangerous adverse effects caused by mine hazards, these types of protections are largely reactionary and may fail to address an issue until after the damage is done. To ensure that potential environmental impacts and the measures needed to mitigate them are fully considered before they occur, the ECO encourages MNDMF to require that the approval of an exploration permit include the completion of a comprehensive environmental impact assessment. Furthermore, to ensure that public concerns are fully considered, the ECO strongly encourages the government to classify exploration plans and permits as instruments under the *Environmental Bill of Rights, 1993 (EBR)*. This would allow the public to comment on exploration plans and permits via the Environmental Registry and file applications for review and investigation.

The ECO agrees with MNDMF's decision to expand the list of land types withdrawn from staking. However, the ministry should have included world heritage sites, conservation areas, the habitat of threatened and endangered species, and natural heritage features, such as provincially significant wetlands and woodlands, in Bill 173's list of withdrawn lands. Moreover, the ECO believes the government missed an excellent opportunity during the review of the *Mining Act* to give itself the authority to cancel mining leases. Currently, MNDMF cannot withdraw a claim that proceeds to lease unless it is repealed by a judge of the Ontario Superior Court. In our 2008/2009 Annual Report, the ECO expressed frustration with MNDMF's inability to cancel mining leases that overlapped with an ecologically important old growth forest. The ECO believes the government should have the ability to protect environmentally significant sites that conflict with mining claims.

Because many important details about exploration plans and permits are yet to be developed in future regulations, it is difficult to know what effect these measures will have on protecting the environment. Likewise, uncertainty for industry, property owners and environmental protection is created by government delays in: drafting the *Far North Act, 2010*; developing community-based land use plans; and proclaiming the *Mining Act* provision that allows SRO property owners in northern Ontario to apply to have their lands withdrawn.

Moreover, because pre-existing claims are unaffected by community-based land use plans, the government's failure to roll out the amended *Mining Act*, its regulations, and the *Far North Act, 2010* as a comprehensive regulatory package creates loopholes that undermine the land use planning the government hopes to create. These delays could result in cases where the government realizes only after the fact that mining claims have been staked on ecologically sensitive lands, at which

point it is too late to withdraw the lands. Such a situation would be similar to the headache caused by Ontario's Living Legacy mining disentanglement that has plagued the government for years (see pages 85-89 of the Supplement to the ECO's 2006/2007 Annual Report). This troubling scenario could have been pre-empted by heeding the ECO's past suggestions to proactively identify lands in the Far North with significant ecological values, withdraw such lands from staking, and give the government the authority to cancel leases. To prevent the creation of more disentanglement-like situations, the ECO encourages the government to develop the *Mining Act* regulations and the *Far North Act, 2010* as promptly as possible, without sacrificing or constraining the public's right to full and meaningful consultation.

Plans to implement a map staking system raise the troubling prospect that foreign corporations with deep pockets will be able to stake large tracts of Ontario with the "click of a mouse." Given the seemingly inappropriate use of claim staking to secure hundreds of kilometres of land for a rail corridor (see Part 5.1.3 of this Annual Report), such a system has the potential to seriously undermine land use planning in the province. The current Minister of Northern Development, Mines and Forestry, the Honourable Michael Gravelle, has indicated that ongoing consultation and experience of other jurisdictions will guide MNDMF's efforts to develop a map staking system that "maintains competitive access to mineral tenure for all explorationists." The ECO urges MNDMF to also ensure that the developed system does not jeopardize effective land use planning.

MNDMF should be praised for undertaking extensive consultations during the development of Bill 173. The ECO looks forward to continued consultation and use of the Environmental Registry as the ministry develops regulations under the amended Act. The ECO is disappointed, however, that MNDMF's proposal notice for its discussion paper on modernizing the Act failed to provide an electronic copy – or even the name – of the document the ministry was seeking comment on. Insufficient information in registry postings seriously hinders the public's ability to comment. Furthermore, the ECO is frustrated that it took MNDMF four months to send the ECO the written comments the ministry had received on Bill 173. Such delays hamper the ECO's ability to effectively review the ministry's consideration of public input and meet our responsibility under the *EBR* to report to the Ontario Legislature.

For a more detailed review of this decision, please refer to Section 4.22 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

5.1.1 Uranium Mining

In April 2009, two applicants requested a review of the need for a new act to legislate uranium exploration, as well as residential and industrial development, in areas with elevated naturally-occurring uranium. Exposure to this radioactive heavy metal is associated with bone, liver and lung cancer, blood diseases and kidney damage.

The applicants asserted that Ontario's existing legal framework provides no avenues for addressing community concerns about uranium exploration and provides few tools for monitoring and mitigating impacts of uranium exploration on water resources and the environment. Given the additional/unique risks associated with uranium compared to other minerals, the applicants asserted that it is important to have a new act that both protects the environment and requires a public review prior to advanced exploration and development of a uranium mine. The applicants argued the Ontario

government should undertake this review to prevent impacts on human health and the environment from uranium exposure.

Given the potential for environmental and health impacts, some Canadian jurisdictions have applied restrictions, guidelines or a moratorium on uranium exploration. Several Ontario municipalities and organizations (e.g., the David Suzuki Foundation, Amnesty International and the United Church of Canada) have requested that the Government of Ontario suspend uranium prospecting, exploration and mining in eastern Ontario until the associated health, environmental and economic issues are resolved.

In June 2009, MNDMF, the Ministry of the Environment (MOE), the Ministry of Natural Resources (MNR) and the Ministry of Municipal Affairs and Housing (MMAH) all denied this application for review, stating that a number of acts, regulations and instruments already provide for human health and environmental protection.

ECO Comment

The ECO agrees with MNR's and MMAH's decisions to deny this application for review since most of the concerns raised by the applicants are largely the direct responsibility of MNDMF and MOE.

The ECO also concurs with MNDMF not undertaking this application. While the applicants raised valid concerns about the potential for uranium exploration and mining to cause environmental harm, the ECO expects that MNDMF would have considered these issues during its drafting and consulting on amendments to the *Mining Act*. Moreover, while the ECO agrees that the effects of uranium exposure are of concern and need to be mitigated, the ECO believes this should be addressed through a fully protective *Mining Act*, rather than a uranium-specific regulatory framework.

As indicated in the ECO's review of the *Mining Amendment Act, 2009*, to ensure that potential environmental impacts and the measures needed to mitigate them are fully considered before they occur, the ECO encourages MNDMF to require that the approval of an exploration permit include the completion of a comprehensive environmental impact assessment. In addition, to ensure that the unique aspects of uranium are considered and that appropriate uranium-specific environmental safeguards are included in exploration permits, the ECO encourages MNDMF and MOE to co-operatively develop guidelines for mineral exploration in uranium zones and post these guidelines on the Environmental Registry for public comment.

Although the ECO also agrees with MOE's decision not to review this application, the ECO believes that MOE failed to respond to each of the applicants' concerns in sufficient detail. In particular, the ECO is disappointed that MOE did not address the applicants' questions about the adequacy of Ontario's Drinking Water Quality Standards for uranium. MOE's failure to acknowledge the applicants' concern and explain the basis for Ontario's standards does little to assure the applicants that these standards are scientifically sound.

For a more detailed review of this decision, please refer to Section 5.5.1 of the Supplement to this Annual Report.

5.1.2 Ring of Fire: Illegal Construction of Mining-related Projects

The Ring of Fire is a roughly 5,120 square kilometre (km) crescent-shaped area of Ontario's boreal forest that has been subject to intense claim staking, prospecting and exploration ever since copper and zinc were discovered in the area in the late 1990s. After a flurry of exploration activity, the area is now known also to contain nickel, gold, diamonds and potentially the single largest source of chromite in North America. Interest in chromite is extremely high as it is used to make stainless steel. Chromite is also a strategic mineral used in the production of missile components and armour plating. A U.S. mining company reportedly intends to invest approximately \$800 million (U.S.) to develop a large open pit mine to extract high-grade chromite near McFauld's Lake in the Ring of Fire. In March 2010, the Premier noted that this find is the "most promising mining opportunity in Canada in a century."



In September 2009, a company submitted an application to MNR seeking approval to construct a mining camp and permanent airstrip 18 km west of McFauld's Lake. The proponent sought permission to develop 81 hectares of Crown land to build an 1,830-metre airstrip, four helicopter pads, a fuelling area, storage facilities and staff accommodations. The key approvals process for this proposed project is the Class Environmental Assessment (Class EA) for MNR Resource Stewardship and Facility Development Projects. Under this approvals process, the proposal was evaluated as a "category B" project in which there is the "potential for low to medium negative environmental effects, and/or public or agency concern."

Several days after the Class EA process began, MNR staff flew over the site to inspect it. To their surprise, the proponent had already cleared the forest and constructed the mining work camp and airstrip, which appeared to be in active use. MNR halted the Class EA process and issued a warrant under the *Public Lands Act* to stop the unauthorized occupation and use of Crown land. MNR then began investigating whether any other laws had been broken.

MNR allowed this Class EA process to be re-started in mid-October 2009. In its revised application, the proponent stated that it had autonomously decided to begin construction of the airstrip because of delays in the initiation of the Class EA process. The proponent noted that in making this decision, it had considered the project's impact on the environment to be no different or greater than that created by exploration activities and the development of mining camps and access trails in the area.

Although the approvals process for this project falls under MNR's Class EA, the proposed project is directly tied to mineral development and is situated on Crown land staked under the *Mining Act*. This case, therefore, raises the serious question of what role MNDMF, the lead ministry for the Ontario government's One Window Co-ordination Process for mineral development, is taking to oversee mining-related development in the Ring of Fire.

The purpose of the One Window Co-ordination Process is to provide "an efficient, transparent and timely process for the review, permitting and approval of new mineral development projects." This one-window policy states that the ministry will screen projects for their "potential regulatory components and complete an assessment of the scope of multi-ministry involvement based upon

discussions with the Proponent." This process is intended to be applied to projects: requiring multiple permits and/or approvals; requiring the involvement of more than one participating ministry; or triggering a requirement for processes under the *Environmental Assessment Act*. Given that MNR needed to step in and shutdown the illegal construction of the airstrip and work camp, it is reasonable to assume that MNDMF did not apply the one-window policy in this case.

This case raises the possibility that other proponents in the Far North also may not have obtained the necessary approvals from the Ontario government. The basis for this concern is further evidenced by MNR shutting down another Ring of Fire airstrip in February 2010 that had been constructed without authorization. In these types of cases, the ECO believes that the Ontario government has no choice but to take legal action in order to underscore the point that proponents must comply with Ontario's laws.

For ministry comments, please see Appendix C.

5.1.3 Ring of Fire: Using Mining Claims to Plan the Far North

In the summer and fall of 2009, an unusual pattern of mining claims were staked in northern Ontario. Two long north-south lines of mining claims (see Figure 1), each stretching hundreds of kilometres, were staked leading from the Ring of Fire (see box 5.1.2). It has been widely reported that these linear corridors of staked claims will be used to develop a railway line to a future open pit mine that will extract high-grade chromite.

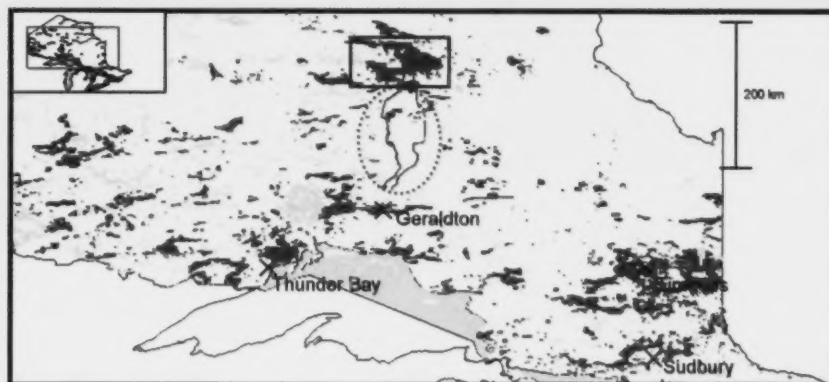


Figure 1. Staked mining claims are depicted in dark green. The solid blue square identifies the staked claims in the Ring of Fire. The dashed red circle identifies the area containing two linear corridors of mining claims that were purportedly staked to secure lands for a railway. (Source: MNDMF CLAIMaps. Date: May 17, 2010)

The ECO is concerned that the staking of hundreds of kilometres of Crown lands for a rail corridor abuses the intended purpose of mining claims. Unfortunately, the *Mining Act* is ambiguous on this matter, stating only that lands, surface and mining rights issued under the Act are to be used solely for "mining purposes" and that staked claims are to be used as "mining land" or for another purpose of the "mineral industry."

Furthermore, the ECO believes that the staking of claims to build a rail corridor circumvents the appropriate approvals process: MNR's Class Environmental Assessment (Class EA) for MNR Resource Stewardship and Facility Development Projects. Unlike the process of staking mining claims, the Class EA process assesses alternatives and examines impacts of proposed projects with the possibility of rejecting a proposed project due to unnecessary environmental impacts. Obtaining land for a project by staking mining claims essentially predetermines the project's location and, thereby, nullifies a core purpose of conducting an environmental assessment: to assess site alternatives. Moreover, it ignores the fact that other permits and considerations, such as potential impacts on species at risk, may be necessary before the project's location is determined.

Under still-to-be proclaimed amendments to the *Mining Act*, claim staking and the opening of a new mine in the Far North will be prohibited if there is no community-based land use plan for the area, or if the land use designation is "inconsistent" with mineral exploration and development. Because pre-existing mining claims are unaffected by designations in community-based land use plans, the case of the staked rail corridors illustrates that staking could be used to essentially supersede future attempts at Far North land use planning. Using the *Mining Act* to secure possible rail corridors takes these Crown lands off the table for any possible protection based on their cultural or ecological significance. As such, it would be possible under the auspices of the *Mining Act* for a proponent with sufficient resources to "plan" or pre-determine many land uses in the Far North before the government and local communities develop land use plans. Moreover, map staking and the allowing of claim holders to pay fees in lieu of on-the-ground assessment work could, depending on the systems developed in regulations, make it even easier for wealthy companies to stake and retain claims that conflict with effective land use planning.

Recommendation 10

The ECO recommends that the Ministry of Northern Development, Mines and Forestry consult on safeguards to ensure that electronic map staking is not misused as *de facto* land use planning in the Far North.



Part Six
Rethinking Waste

The term "waste" requires a fundamental rethinking: in a larger environmental context, wastes are simply misplaced resources. However, the common understanding of the word "waste" is perhaps better expressed as "unwanted stuff"; it is not generally associated with ideas such as value, opportunity, sustainability, and long-term prosperity. A more neutral term, one used often in this part of the Annual Report, is "residuals". Similarly, the focus on "waste diversion", as the term itself implies, has been largely motivated by the need to keep these materials out of disposal sites. It has not provided many incentives for resource conservation through reduction of residuals at source.

This part of the Annual Report looks at the need and the potential for transformative change in residuals management in Ontario. It includes discussions of: several legacy issues, including an update on Ontario's old landfills; two recent government decisions dealing with management of specific types of residuals, including non-agricultural source materials (NASM) and used tires; and the current and potential role of compost and composting in Ontario's resource conservation strategies.

6.1 Aging Landfills: Ontario's Forgotten Polluters

Each year, approximately 5.6 million tonnes of Ontario's waste ends up in the province's 32 largest landfills. However, thousands of smaller landfills are scattered across the province, some active and some inactive. Yet very little is known about these small landfills. The ECO has had longstanding concerns over the state of Ontario's landfills, particularly older landfills that preceded the stricter environmental conditions introduced in 1998 by O. Reg. 232/98 (Landfilling Sites), made under the *Environmental Protection Act* (EPA).

Under section 27 of the EPA, a Certificate of Approval (C of A) must be obtained from the Ministry of the Environment (MOE) prior to using, establishing or enlarging a waste disposal site. The current application process requires a site assessment to determine environmental risks and the requisite mitigation measures based on criteria set forth in O. Reg. 232/98. Approvals under O. Reg. 232/98 contain stricter mitigation, monitoring and reporting provisions than Cs of A pre-dating the regulation. These older Cs of A were issued based on the basic rules of R.R.O. 1990, Reg. 347, the General – Waste Management regulation.

Without sufficient mitigation measures, landfills can pose a serious risk to the environment. As water filters through a landfill, it mobilizes the metals, minerals, organic chemicals, bacteria, viruses and other toxic materials in the waste. The contaminated liquid, called leachate, can migrate from the landfill site into nearby ground and surface waters. The decomposition process also produces gases resulting in the release of noxious odours and greenhouse gases (methane and carbon dioxide). While modern landfills are designed to meet the O. Reg. 232/98 standards to prevent leachate from infiltrating water sources and to control air emissions, landfills approved prior to 1998 are not.

Both the ECO and the public have expressed long-standing concerns about the province's oversight of these older landfills and the adequacy of its landfill tracking system. In our 2005/2006 Annual Report, the ECO critiqued the province's waste site inventory, which was last completed in 1991, and found it to be seriously outdated. The ECO was also concerned that MOE did not have a plan to systematically upgrade the Cs of A for older landfill sites. The ECO urged MOE to rectify these deficiencies.

The ECO has also received numerous EBR applications, e-mails and phone enquiries expressing

concerns over landfills. For instance, the Supplement to this Annual Report contains reviews of two troublesome landfill situations in Ontario – including the Moscow landfill, which is summarized Part 6.1.1 of this Annual Report. The ECO decided to re-examine this issue in October 2009 to determine whether the ministry has made any progress on the ECO's 2005/2006 recommendations. The ECO concludes that while there are modest improvements with MOE's tracking of large landfills, problems remain with MOE's handling of small and aging landfills.

Findings

In conducting this review, the ECO spoke with MOE staff, participated in an MOE database training session, and submitted an information request to the ministry. MOE responded to the request by conducting a database search and a physical file search in 22 district offices, the Ontario Archives and the Environmental Assessment and Approvals Branch of selected landfills with a C of A. The ministry reviewed approximately 2,400 files in district offices and its databases. Additionally, the ministry provided the ECO with data on a cross-section of approximately 200 landfills from different regions of the province, which the ECO will review in the future. The ECO also consulted and shared findings with the Auditor General's Office, which is also evaluating Ontario's landfill management for its upcoming report.

Landfill Inventories – IDS and LIMO

MOE's Integrated Database System (IDS) is the ministry's primary tracking system. It consists of 23 modules housing 65 databases containing information, such as inspection reports and Cs of A. Older information (i.e., pre-1999 for Cs of A and pre-2002 for inspections) is not in IDS, but in paper files at the district offices or approvals branch or archives database.

The Landfill Inventory Monitoring Ontario (LIMO) system was created in response to the ECO's 2005/2006 Annual Report landfill recommendations. This inventory contains basic information for Ontario's 32 largest landfills, representing 90 per cent of the province's landfill capacity in current use. These sites are plotted on an interactive provincial map.

Access to the inventories is very limited. Unless formal ministry approval is granted to a user, IDS can only be used by the Operations Division at MOE. However, all government employees can access LIMO from MOE's intranet site. Unfortunately, the public cannot access either database, although MOE is considering options to make LIMO publicly available.

The inventories have limited diagnostic capabilities and the information is not comprehensive. IDS has basic analytical features where data selected from a database can be extracted from the system into a spreadsheet. Depending on the query, the extraction process can be complicated and lengthy. LIMO does not have analytical capabilities and only contains basic information for 32 landfills. A positive outcome of the ECO information request is that MOE committed to add more landfill sites to LIMO.

The inventories' shortfalls are partly attributed to being under-resourced. In our 2005/2006 Annual Report, the ECO highlighted California's waste inventory as a model for a public landfill inventory. However, MOE explained in 2010 it does not have the funds or the personnel to create a similar inventory.

The ECO is concerned that landfills, particularly older and smaller ones, are not on the radar screen of the ministry or its district offices, especially if they are not on IDS (see table below). In its preliminary 2010 findings, MOE informed the ECO there were 1,209 non-hazardous landfill sites with Cs of A (active and closed). Upon completing its survey of district offices, this number rose to 2,449, suggesting that 1,240 landfills are not on IDS and, therefore, their files are not readily accessible to Operations Division. MOE also discovered that 344 sites were incorrectly identified as landfill sites, and the records for 222 sites were missing but presumed closed. MOE indicated that the 1,042 fewer closed sites in 2010 than in 1991 were historic landfills (dumps) included in the 1991 inventory. These dumps do not have Cs of A because they were closed prior to the establishment of MOE, and therefore were not included in the ministry's 2010 update for the ECO. It is unclear to the ECO how these 1,042 sites are being tracked by MOE.

Year Reported	Active Sites	Closed Sites	Total Landfill Sites
1991	1,358	2,334	3,692 (with and without Cs of A)
2010	1,157	1,292	2,449 (with Cs of A)
Difference	-201	-1,042	-1,243

MOE's survey of district offices also revealed that the vast majority of landfills are operating under the older, basic Reg. 347 rules. MOE reported that of the 2,449 landfills with Cs of A:

- 700 were subject to Reg. 347 only (i.e., no site-specific conditions in the C of A);
- 1,728 were subject to Reg. 347 and C of A site-specific conditions; and
- 21 were subject to O. Reg. 232/98 and C of A site-specific conditions.

In other words, only 1 per cent of landfills are covered by the more stringent requirements of O. Reg. 232/98, and presumably these are the largest landfills operating in Ontario.

Older and smaller landfills, particularly those only subject to Reg. 347, generally have not been designed with the environmental protection measures set out in O. Reg. 232/98 including: mandatory air emissions control; groundwater protection; leachate control; buffer areas, final cover design and surface water control; and assessment monitoring, record keeping and reporting provisions. Moreover, any pollution prevention measures in place may have deteriorated over time. These older active or closed landfills may be releasing leachate into groundwater, which may be going undetected by MOE staff.

MOE does not conduct routine, proactive inspections of small and aging landfills. Instead, inspectors review IDS and consult district offices to determine priority inspection sites after considering program diagnostics, inspection history and risks. MOE estimates that 23 per cent of landfill sites with Cs of A are inspected annually.

Updating of Cs of A for Landfill Sites

In our 2005/2006 Annual Report, the ECO expressed concern over outdated landfill Cs of A. The C of A defines a landfill's capacity, types of waste accepted, and conditions for design, operation and closure. Yet, many landfills are operating with outdated mitigation technology and operational rules.

MOE has not made progress in terms of updating outdated Cs of A since our 2005/2006 report.

Based on the above figures, the majority of landfills with Cs of A were approved under the basic rules of Reg. 347. Therefore, unless the C of A contains protective site-specific conditions, the landfill is not covered by the stricter requirements of O. Reg. 232/98.

MOE does not have a comprehensive strategy to update the conditions of outdated landfills. MOE states it relies on its Protocols for Updating Cs of A for Waste Management, along with its Field Alert Program to update Cs of A. Essentially, when a C of A holder applies for an amendment to their approval, MOE's Environmental Assessment and Approvals Branch will impose updated conditions of approval. When required by the ministry, the holder may be required to upgrade their property to meet those standards. Ninety per cent of C of A reviews are triggered by an owner's request for amendment or expansion of landfill.



The Field Alert Program allows district offices to use the IDS system to identify landfill sites that require amendments. The IDS C of A Module includes Cs of A dating back to 1999. Over the past three years, only 55 Cs of A for landfills were updated as a result of field alerts. Nine per cent of reviews were initiated by ministry site-specific inspection or enforcement. Less than 1 per cent of reviews were triggered by ministry sector-wide initiatives or third-party requests.

MOE expressed an intention to update Cs of A after they resolved its C of A applications backlog. However, no strategy or target completion date was articulated.

ECO Comment

Overseeing landfills is the responsibility of MOE. The ECO is troubled that the ministry does not have a comprehensive process to ensure older landfills are not polluting local water sources. Only a small fraction of landfills are inspected or have their Cs of A updated, while the ministry seems to have lost track of many others. The ministry's 1991 inventory data was in a published format, yet the IDS Landfill Inventory Module only goes as far back as 2002. The public expects MOE to: keep an updated record of provincial landfills; monitor high risk sites; and update Cs of A where necessary. This role is vital to protect groundwater. MOE needs to work closely with its district offices to create a central and accessible inventory for all its landfills.

The ECO commends MOE on its handling of our information requests. The information was provided promptly and ministry staff were helpful. We are pleased that the request triggered MOE to begin compiling landfill records and to include the information gathered onto the LIMO network.

The ECO is pleased our 2005/2006 recommendations prompted MOE to create LIMO. However, LIMO is inadequate because:

- it is not publicly accessible;
- it contains only basic information;
- its data cannot be sorted or searched; and
- it is limited to only 32 landfills.

In comparison, the ministry's 1991 Landfill Inventory which was published and available to the public, was more comprehensive because it contained information on all landfills in Ontario. The ECO is perplexed as to why MOE cannot complete the work it once did in 1991 and make the information available on its website. MOE administers other online public databases, such as the Environmental Registry and the brownfields' Environmental Site Registry. It is reasonable to expect MOE to make landfill information available to the public.

The ECO urges MOE to make better use of its databases. IDS should be shared with all ministry branches, particularly those dealing with water and air issues. IDS could also be relevant to other ministries. The ECO encourages MOE to continue populating LIMO with smaller and older landfills and to make it publicly accessible on MOE's website. Furthermore, additional information (i.e., compliance records and risks) should be included for each landfill on LIMO. The public has the right to know of potential environmental threats that exist in their area.

The ECO strongly urges MOE to develop a comprehensive strategy to update Cs of A. MOE must take a risk-based approach to identify high risk landfills that require stronger protection measures or operational procedures. Only 21 landfills in Ontario currently benefit from O. Reg. 232/98's pollution prevention measures. The rest are operating under a wide range of inconsistently applied rules, only some of which are protective and the others require updating. MOE should be proactive in identifying landfills that require updated rules.

Landfills can no longer be the province's forgotten polluters. It is imperative that high-risk landfills are monitored and managed to protect Ontario's water resources and air quality.

Recommendation 11

The ECO recommends that the Ministry of the Environment establish and implement a plan to update Certificates of Approval for Ontario landfill sites, with priorities based on environmental risks.

For ministry comments, please see Appendix C.

6.1.1 Ontario's Old Dumps: Patch Them Up or Shut Them Down

For almost three decades, from 1980 to 2009, the Moscow Landfill in Camden East operated under a Certificate of Approval (C of A) that imposed few requirements. It only stipulated the site's location, the maximum size of its "working face", and the need to cover wastes with soil weekly. No monitoring or testing was required. In fact, no testing was conducted until 2003, when an MOE inspection found the site to be out of compliance with current provincial regulations and policies. In general, the early history of the site reads like a litany of bad management:

- wastes were regularly deposited in wetland areas not suitable for landfill;
- wastes were deposited on a neighbour's land, forcing the Township to buy (and the neighbour to sell) part of the land to mitigate non-compliance with regulations; and
- groundwater under much of the remainder of the neighbour's land was contaminated by the waste.

Moscow Landfill uses what is called "natural attenuation" to treat the liquid effluent, called "leachate", which flows out of the waste into the environment. Leachate can contain contaminants,

such as metals and toxic organic compounds, which can pollute ground and surface waters. Soil can remediate leachate through natural processes as long as the leachate's retention time in the soil is sufficient. In this case, however, the site is situated on fractured bedrock and is close to a river and to a sensitive natural feature (i.e., a wetland). Accordingly, the leachate generated at the site poses at least some degree of risk to both the environment and to the local water supply. Overall, there is little doubt that the site would be deemed unsuitable for waste disposal according to current standards.

Nevertheless, in 2008 the Township expropriated most of the adjacent land and applied to MOE for an amended C of A in order to be able to shift the landfill's footprint away from the wetland, which, without extending its original footprint capacity of 2.8 hectares, extended its life by 39 years. In issuing the requested permit in 2009, MOE required the Township to construct a clay base under the new part of the landfill, conduct local water monitoring, and create a contingency plan with criteria for triggering abatement actions.

The new operating conditions will certainly be an improvement on the site's historical record. The facts laid out above, however, beg the question: why not close this landfill and haul the waste to a modern, better-situated facility? The ECO does not agree with the implicit MOE policy of relying on amended Cs of A to justify keeping old landfill sites open in unsuitable or environmentally inappropriate locations.

For a more detailed review of this decision, please refer to Section 5.2.6 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

6.2 Shedding the Spare Tires: Rolling Out Ontario's Used Tires Program

Used tires can cause a number of environmental problems. They take up valuable space in landfills, serve as breeding grounds for mosquitoes and, when stockpiled, present a fire hazard. The emissions produced by burning tires also pose serious environmental and human health threats. According to the Ministry of the Environment's (MOE's) most recent inventory of scrap tire stockpiles, there are over two million tires stockpiled across the province in about 90 sites.

In April 2009, the Minister of the Environment approved a Used Tires Program Plan to address the proper management of used tires in Ontario. The program, which is being implemented by Ontario Tire Stewardship (OTS), collects fees from stewards (brand owners, importers and vehicle manufacturers) to fund the diversion of used tires generated in Ontario and clean up existing scrap tire stockpiles. (For a complete review of the Used Tires Program Plan, see Section 4.6 of the Supplement to this Annual Report.)

The ECO commends MOE for approving a long-needed program that will reduce the number of tires stockpiled across the province and exported for fuel. What is missing from the plan, however, is clarification on what types of tire sites are included in OTS's stockpile abatement program. For example, the plan's first year goal of cleaning up one-third of "identified illegal stockpiled tires" implies that only illegal stockpiles (i.e., sites with more than 5,000 tires and no Certificate of Approval) will be targeted for abatement. However, the plan's table summarizing Ontario's scrap tire stockpile sites includes sites with less than 5,000 tires, suggesting that these legal stockpiles may also be

included in the abatement program. The plan fails to clearly define a stockpile site for the purposes of stockpile abatement. MOE must clarify for tire collectors, stewards and the public what types of stockpile sites will be included in the program.

With this in mind, the ECO reminds MOE that delegating the program's implementation to OTS does not release the ministry of its obligations in used tire management altogether. The ECO recognizes that "orphan" stockpiles of tires that have no responsible party (e.g., those that have been dumped on public lands or abandoned by businesses) unquestionably need to be addressed through the stockpile abatement program. Other stockpiles included in MOE's inventory, however, are on private properties or the land of operating businesses (e.g., an auto wrecker or municipal landfill) and are clearly the responsibility of the property or business owner.

While some of the privately owned sites identified in MOE's stockpile inventory are not registered with the ministry and are therefore illegal, other property owners hold a Certificate of Approval (C of A) to legally store tires. If MOE considers stockpile abatement necessary for a business that is legally accumulating tires within its C of A limits, MOE should consider amending the C of A to be more restrictive. OTS should not be held responsible for cleaning up a legal stockpile covered under a C of A.

Likewise, if a business or landowner is stockpiling more than 5,000 tires without a C of A (or in violation of its C of A), MOE should ensure the non-compliance is addressed. This could be done by: working with the company to develop an abatement strategy; using any financial assurance posted in a C of A; and/or issuing ministry orders. Again, OTS should not be tasked with MOE's job of ensuring that businesses are in compliance. Moreover, it would be unfair to taxpayers and consumers for the government or OTS to finance the clean-up of illegal stockpiles generated by negligent businesses, especially when other businesses have responsibly complied with their C of A requirements at their own expense.

For a more detailed review of this decision, please refer to Section 4.6 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

6.3 Sewage Biosolids: New Rules for Use on Agricultural Land

In September 2009, the government approved substantive changes to the two frameworks that regulate the application of sewage biosolids on agricultural land. Also known as sewage sludge, sewage biosolids are considered by some to be a waste that contains dangerous levels of metals, industrial chemicals, household hazardous wastes, pharmaceuticals including antibiotics, pathogens, etc. Those who hold this view maintain that when applied on land these materials threaten the quality of our environment and endanger human health. On the other hand, some consider sewage biosolids to be a valuable source of plant nutrients and organic matter, which when properly applied to land improve crop growth and soil health. According to the Ministry of the Environment (MOE), approximately 40 per cent of the 300,000 dry tonnes of sewage biosolids generated annually by Ontario's municipal sewage treatment plants (STPs) is land-applied.

There are currently two overlapping regulatory frameworks that govern the land application of biosolids: one established under the *Environmental Protection Act* (EPA) and administered by MOE,

and a second established under the *Nutrient Management Act, 2002 (NMA)* and administered jointly by the Ministry of Agriculture, Food and Rural Affairs (OMAFRA) and MOE. On September 18, 2009, the General Nutrient Management Regulation (O. Reg. 267/03), under the NMA, was amended to make changes to the regulatory framework for non-agricultural source materials (NASMs). Some of the changes took effect immediately, but the primary amendments take full effect January 1, 2011. The changes will untangle and streamline the two regulatory regimes by removing duplicate requirements under the NMA and the EPA and by introducing quality-based standards for the agricultural land application of NASMs.

Before the Amendments Take Full Effect

Sewage biosolids are characterized as a waste under the EPA and R.R.O. 1990, Regulation 347 – General Waste Management ("Reg. 347"). They can be applied to land, including farm fields, if an Organic Soil Conditioning Site Certificate of Approval (C of A) has been issued by MOE. The C of A outlines the terms and conditions for land application. There are approximately 2,500 active Organic Soil Conditioning Site Cs of A in Ontario.

Sewage biosolids are also characterized as a material containing nutrients under the NMA and O. Reg. 267/03. Accordingly, they are subject to numerous rules concerning quality testing, storage and land application of nutrients. Ontario Regulation 267/03 distinguishes between:

- "non-agricultural source materials" (NASMs) generated off the farm, which include sewage biosolids and food processing wastes; and
- "agricultural source materials" (ASMs) generated on the farm, which include manure.

As of December 2009, Ontario's 19 largest municipal STPs and almost 2,800 livestock operations have been phased in under O. Reg. 267/03. This means that they were required to prepare five-year Nutrient Management Strategies (NMSs) describing the ASMs and/or NASMs that they will generate and indicating where they will be distributed. Some phased-in livestock operations have also been required to prepare five-year Nutrient Management Plans (NMPs) describing how their ASMs and/or NASMs will be stored and land-applied. If their NMPs included land-applying NASMs, they were required to have their NMPs approved by OMAFRA and their sites approved by MOE.

After the Amendments

When the September 2009 amendments to O. Reg. 267/03 come fully into force on January 1, 2011, municipal STPs and livestock operations will be subject to the approval requirements of only one regulatory framework. Municipal STPs will no longer be required to prepare NMSs but will continue to operate in accordance to approvals under the EPA and *Ontario Water Resources Act*. Livestock operations and cash croppers that land-apply NASMs will no longer be required to obtain Organic Soil Conditioning Site Cs of A but may be required to obtain approval under the NMA framework depending on the type of NASM applied.



Also on January 1, 2011, the current approach of managing all types of NASMs as if they posed the same risk will be replaced. The new rules consider the source and innate risk to the environment and human health of each type of NASM, as well as the quality of the NASM in terms of its metal and pathogen content and odour. The rules for NASMs with the lowest risk and highest quality are the least stringent. Farmers that land-apply or store higher risk NASMs will be required to prepare NASM Plans, which are NMPs that are field-specific, and in some cases have them approved by OMAFRA. Farmers storing or land-applying sewage biosolids as a nutrient will be required to have an approved NASM Plan.

For more information about O. Reg. 267/03 and a detailed review of the amendments, see Section 4.10 of the Supplement to this Annual Report.

ECO Comment

Since the enactment of the NMA and O. Reg. 267/03 in 2003, the public has had more opportunities to comment on proposals about land application of sewage biosolids and other organic materials. However, some of these opportunities have been diminished by the lack of generally available and detailed information on the scientific basis and objectives of the new rules, and the potential impact on both the environment and agriculture. For example, OMAFRA and MOE did not explain why the most recent amendments to the rules provide the same or higher level of environmental protection despite regulatory controls being eased for many NASMs. In addition, they did not clearly explain that the new rules are part of a broader organics management strategy and are designed to encourage land application of organic materials over landfilling and over use as feedstock in energy-from-waste facilities. The ECO believes that the government should have provided a better description of the broader context of the new rules. In addition, the government should have prepared and made available a rationale document explaining the scientific basis for the new rules.

Furthermore, the public does not have access to site-specific information. Neighbours of sites receiving sewage biosolids, in particular, often have questions and concerns that remain unanswered. Although this failure is due in part to the lack of supporting documentation just mentioned, it is also due to the fact that NMA instruments (such as NMPs) are not prescribed under the *Environmental Bill of Rights, 1993* (EBR). As a result, the public has no opportunity to comment on proposals and has no access to approved instruments. The agricultural industry and OMAFRA cite confidentiality issues as the reason for not making the instruments public. However the ECO believes that these concerns can be addressed and again urges OMAFRA to prescribe NMA instruments for public comment under the EBR.

The government has also not explained how it plans to measure and assess the impact of the NMA framework, or even if it plans to do so. With less than 5 per cent of Ontario's agricultural land phased in (according to ECO calculations), it is increasingly difficult to believe that the original objectives of the NMA have been achieved. The ECO urges the government to commit to preparing a report every five years that clearly outlines the government's progress in implementing the framework across the province and in achieving its objectives in terms of nutritional and environmental benefits and costs.

The ECO continues to support the purpose of the NMA framework, but is increasingly concerned with the lack of transparency, the need to document and quantify the benefits, the limited opportunities for public consultation, and the glacial pace of implementation.

For a more detailed review, refer to section 4.1 of the Supplement. For ministry comments, please see Appendix C.

6.4 Compost: Appreciating Nature's Sense of Humus

Ontario generates about 13 million tonnes of waste each year – enough to cover the entire surface area of the City of Toronto with 15 centimetres (cm) of refuse. Of that total, about one-third is comprised of organic residuals and, therefore, compostable. Although some municipalities have been collecting and composting leaf and yard residuals and/or promoting backyard composting for many years, much of this material is still being disposed of in Ontario's landfills. Over the past decade, however, faced with increasing waste disposal costs, rapidly declining landfill capacity and growing public pressure to increase waste diversion, more and more municipal decision makers are deciding that composting organic residuals is arguably the best way to maximize diversion.

Although this interest in composting for waste management purposes is relatively new, composting as an agricultural process is not; it has been practiced for millennia. The Egyptians composted animal manure with straw and farmers in medieval Europe used compost as fertilizer for their crops. In North America, composting provided an estimated 90 per cent of farmers' fertilization needs until 1950, after which inexpensive, easier-to-apply, and highly effective commercial fertilizer resulted in that figure dropping to about 1 per cent by the end of the century. During this chemical era, the art and science of composting has been kept alive by proponents of organic farming.

Composting is a natural process, whereby organic materials (i.e., those derived from living organisms, such as plant tissue, animal flesh, wood, paper fibre, etc.) are broken down by microbes in the presence of adequate moisture and air. The result is compost – a dark brown, crumbly material, similar in appearance to good soil. If a particular compost doesn't have a pleasant, earthy smell, it has either been improperly made or it is not yet finished, or "mature."

The most common composting process currently used in Ontario is aerobic composting. The term "aerobic" means that the process requires oxygen. Other types of composting practiced on a commercial scale in Ontario include: vermicomposting (composting with worms), which is also aerobic but has no thermophilic stage (see below); and anaerobic digestion, a process that takes place in the absence of oxygen and that also produces biogas, which has value as a source of energy. The focus in this article is on aerobic composting.



The aerobic process includes a "self-heating" (thermophilic) stage characterized by high temperatures (40-70° C). This is important because the high temperatures destroy both pathogenic organisms and weed seeds. During the final curing stage, the cooling compost is colonized by many different beneficial soil organisms, from bacteria and fungi to arthropods and composting worms.

The Value of Compost

The main ingredient in mature aerobic compost is humus – a mixture of various related and complex organic substances that are relatively stable (i.e., do not degrade easily in soil). Humus provides both food and habitat for beneficial soil microbes. The latter slowly convert part of the humus into nutrients in a form available to plants. This “nutrient cycling” is fundamental to the health and fertility of natural ecosystems. The remainder of the humus remains in the soil, providing many other benefits, including the following.

- **Disease suppression:** Plants are protected from disease by the large and diverse number of beneficial soil microbes that are fostered by the high humus levels. The disease organisms are suppressed, out-competed, or simply crowded out by the beneficial organisms.
- **Soil structure:** Microbes build soil structure. Bacteria secrete glues and fungi build threads that, working together, bind the soil into varying sized clumps, or aggregates. The result is porous soil that drains well, resists compaction, remains aerated, and holds plant-available water and nutrients in its micro-pores.
- **Water conservation:** Humus helps both clay and sandy soils by providing porosity for the former and increased water holding capacity for the latter. Most soils have anywhere from 1 to 10 per cent organic matter content. An increase in just 1 per cent (e.g., from 2 per cent to 3 per cent) allows a typical soil to hold an extra 14.5 litres of water per square meter.
- **Carbon sequestration:** A 1 per cent increase in organic matter means that 132 tonnes of carbon dioxide have been sequestered, or removed from the atmosphere, for every hectare of soil. Most of the discussion in Ontario on carbon sequestration in soils as a mitigation measure for climate change focuses on land management methods, such as no-till agriculture. However, the scientific literature confirms that adding compost to soil not only sequesters carbon, but does so more rapidly than any other method with the exception of biochar (see Part 6.4.1 of this Annual Report).

Biological Methods for Managing Soil Systems: Two Real World Examples

Slowly but surely, compost's high end potential is being realized in real world applications. At Harvard University, for instance, the people who look after the grass, flowers, and trees on the 32-hectare campus have discovered that, by using compost scientifically, they can manage the living landscape cost effectively without the use of either pesticides or commercial fertilizers. To do this, they focus on feeding and managing the soil microbes to optimize the soil for individual plant species. The result has been virtually no disease, few weeds, less soil compaction (with grass roots reaching 20 cm deep), a 30 per cent reduction in water use, and greener turf.

The Town of Wolfville, Nova Scotia, is another convert to this “biological” approach. The Town makes its own compost from leaf and yard waste and applies it on two full size soccer fields, one mini soccer field, and three parks (including the gardens). No fertilizer or pesticides are necessary. Like Harvard, the town's composts are tailored for specific purposes. As a result, its soils have been “redesigned” to help turf and plants out-compete the weeds and resist disease. The Town's parks manager reports, “overall our turf is lusher, greener, and has less broadleaf weeds. We have no disease at all and very minimal insect problems, which are easy to control with organic methods.”

Over the past couple of decades, scientists have been increasing their efforts to develop biological methods for managing soil systems, with increasingly impressive results (see box above). They are

working with microbes that naturally suppress certain diseases and are finding ways to inoculate compost and compost extracts with these biological antidotes. They are also examining the soil ecology in different ecosystems, such as prairies and forests, to determine which microbial communities work best for different groups of plants, from quick growing annuals to long lived perennials. Because compost is the perfect vehicle for delivering, enhancing, and sustaining beneficial soil microbes and their communities, the opportunities for compost to play a major role in sustainable agriculture and all other soil-based endeavours will grow in tandem with these new discoveries and applications.

Composting and Compost Use in Ontario

The composting of Ontario's municipal and industrial, commercial and institutional (IC&I) organic residuals happens at two basic scales of operation. Most material is processed at municipal or commercial facilities (usually large scale), and is regulated by the Ministry of the Environment (MOE) under Part V of the *Environmental Protection Act* (EPA). Lesser portions of the residuals are processed on-site at IC&I locations (usually small scale), at community sites (e.g., community gardens), or in the backyards of Ontario residents. These smaller operations are not specifically regulated (although general environmental protection legislation applies), provided that the residuals are generated and processed at the same site.

Many Ontario municipalities, including Ottawa, Hamilton, and Toronto, have established "green bin" programs to collect organic residuals at curbside for processing at centralized composting facilities. These programs, however, have not been universally popular or successful. Some of the problems experienced include:

- local opposition when siting facilities;
- operational problems at facilities, particularly high odour levels;
- contamination of residuals, lowering product quality;
- problems with pests, particularly raccoons, getting into the green bins; and
- generally mixed levels of public acceptance and participation.

These issues have resulted in composting receiving considerable negative media coverage. In addition, many people do not see the value in compost and wonder why we do not simply burn organic waste to produce energy. People who hold this view believe that biomass energy can replace fossil fuels, while compost is just a low value soil amendment. Moreover, as more landfills collect and use methane gas to produce electrical power, some see composting organics as a waste of money when they can generate "free" energy in the landfill. These types of views, commonly expressed in the media, highlight the lack of understanding of the value of compost among both the public and many in the waste management industry.

In 2006, Statistics Canada reported that 732,000 tonnes, or about 17 per cent of Ontario's organic residuals, were diverted from landfill (mostly to composting facilities.) The ECO expects that the diversion rate was considerably higher in the first half of 2010. Waste Diversion Ontario (WDO) surveyed municipalities in 2008 and found that more than 800,000 tonnes of organic residuals were collected by municipal programs alone (a 21 per cent increase over 2007). Figures provided by MOE in 2010 for approved composting facilities indicate processing capacity limits of up to 1.5 million tonnes of input annually, adequate to handle about one-third of the suitable organic residuals

generated annually. If a substantial proportion of this capacity were to be utilized, it would represent a significant increase in diversion.

It is difficult to know, however, how all of the resulting compost is used. No compost market data exist in Ontario. Other jurisdictions report that most of their municipal compost is either given away to residents or sold at a fairly low price to landscapers and topsoil blenders. This is probably also true in Ontario. A few commercial composting facilities use only very clean sources of material, such as food processing residuals, to produce high quality products for specific markets, but to date these are the exception. Most facilities focus on revenues from waste management tipping fees, rather than from the sale of the product. This is particularly true of facilities processing "green bin" residuals.



The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) reports that very little, if any, municipal or IC&I compost is used on agricultural land. The ministry suggests that it is difficult to assess compost's fertilizer value, as compost provides few nutrients directly. Rather, it increases the ability of soil microbes to convert mineral and organic nutrients into plant-available form – a steady but longer-term process. Further, the ministry states that cost is a primary barrier. Off-farm compost costs more than manure or compost produced from crop residues, and farmers cannot justify additional costs when compost's benefits (in terms of dollar values) are unclear.

These issues highlight one of the most significant barriers facing composting: a lack of knowledge and/or appreciation of the real value of well-made compost. Currently, many municipalities

choose to produce compost that, at least in terms of the biological and agronomic parameters discussed in this article, is of less than optimum quality (although these compost products do meet the province's stringent interim guidelines for contaminant levels). The focus tends to be on collecting as much material as possible, thus increasing waste diversion rates, rather than realizing the potential of producing a higher value product. Similarly, if a commercial compost facility could achieve a significantly better price for a higher quality product, managers would be more inclined to invest the money required to achieve that higher quality.

To complicate matters, however, the growing demand for biomass to replace fossil fuels as an energy source will create economic competition for organic residuals, making energy generating options more appealing than composting to municipalities and large IC&I generators. Sound government policy is needed to overcome this barrier, which is crucial to the future of compost.

Promoting the Value of Compost

The ECO proposes that a strategy to promote the value of high quality compost in the marketplace would address many of these concerns. The goal should be to create, over time, a greater level of understanding of compost's real value and, hence, a higher market price for good quality compost. If this could be achieved, it would:

- create incentive for both the public and private sector to build new facilities, increasing waste diversion and saving landfill space;

- make financing of facilities easier and mitigate financial risk;
- allow composting facilities to reduce tipping fees and thus better compete for organic residuals with energy production facilities;
- drive an increase in product quality, including the development of specialty composts for high value end markets; and,
- create a better public image for compost, which would help to promote both backyard composting and more compost use by homeowners.

The ECO recognizes the many difficulties inherent in trying to use government policy to integrate environmental benefits into market pricing. It can only be done indirectly, by creating awareness, reducing barriers to use, etc. In 2009, MOE posted a proposal for revised composting guidelines on the Environmental Registry (#010-6658). This is a very good start; if implemented as proposed, the guidelines will create three distinct quality levels. Removing unnecessary regulatory restrictions is one important way to increase accessibility and demand.

Several other of MOE's recent regulatory and policy initiatives indicate that it shares the ECO's view regarding the importance of compost and composting. Examples include: the recent changes to the rules for application of non-agricultural source materials on land (see Part 6.3 of this Annual Report); and the clear position, set out in O. Reg. 359/09 (Renewable Energy Approvals under Part V.0.1 of the EPA), that for the purposes of renewable energy projects, processes that produce material for the soil (e.g., composting and anaerobic digestion) constitute the highest priority end uses for organic residuals.

However, at least two recent decisions appear to undermine this positive approach. First, the inclusion of compost in the new Municipal Hazardous or Special Waste Program Plan; and second, the requirement for smaller landfills to put in systems to collect landfill gas (see the ECO's 2008/2009 Annual Report, pp. 81-83). In the first case, a hazardous waste program that targets compost flies in the face of scientific logic (properly made compost is in no way hazardous or in need of special handling) and sets up an artificial and completely unnecessary barrier to the development of strong markets for high-quality compost. In the second case, the new landfill requirement may have negative consequences for composting, as municipalities may feel that removing organics from the waste stream is counter-productive if they have invested significantly in energy production from landfill gas.

ECO Comment

Given the policy contradictions noted above and the inevitable increase in demand for organic residuals from a surge in green energy projects, the ECO believes that Ontario needs an overall organic residual strategy anchored by a strong set of composting policies. The following are three areas of compost policy development that should be considered.

1. A provincial government-wide commitment to using compost.
2. A comprehensive strategy and implementation plan for identifying, clarifying and promoting the value of compost, including:
 - public education programs on the value of compost as a key element in sustainable lawn care;
 - demonstration projects for different potential compost markets;

- research projects with universities and the private sector to better quantify specific compost benefits, particularly those associated with (i) the biology of compost and its effects on soil ecology, and (ii) possible compost synergies with the use of biochar in soils (see Part 6.4.1 of this Annual Report); and
- a strategy and plan for promoting backyard, community-scale, and on-site IC&I composting, since these are extremely cost effective and potentially environmentally superior options.

3. A plan for financing the above initiatives.

With respect to financing issues, a comprehensive stewardship program for organics may not be workable, as the principal stewards (growers) have no control over the "design" of their products. Similarly, in terms of regulation, measures such as a disposal ban on organic residuals might be better left for a later date, as bans do nothing to ensure the quality of compost and may, in fact, push quality (and price) to lower levels by flooding the marketplace with inferior product. Two financing options that merit current consideration are disposal levies and carbon credits, although care must be taken not to allow either mechanism to have a negative impact on compost quality.

With respect to carbon credits, the government should consider investigating and, in future negotiations with other jurisdictions, supporting credits for both compost production and compost application by farmers and turf managers. The latter could be part of a broader set of protocols aimed at increasing soil carbon.

All of the above presupposes that compost has a "champion" in government – a ministry that assumes the primary responsibility for achieving compost's full potential in Ontario. In that regard, MOE is not the only ministry with a relevant mandate. OMAFRA is already involved in research projects involving the addition of municipal compost to agricultural crops, and other ministries may have responsibilities that intersect with composting. All relevant ministries could be involved in the development of the organics residual strategy, as well as the composting policies at its core. However, the ECO suggests that MOE assume the role of compost champion and take the lead in instigating and managing this initiative.

Redefining conservation must include rethinking our definitions of "waste". Organic residuals are not wastes; they are key resources for sustainable soil management practices. These in turn underpin the sustainability of our water resources, our food supply and our climate. In the ECO's 2008/2009 Annual Report (pp. 61-67), the ECO pointed out that Ontario's soils receive neither the quantity nor the quality of attention that their vital importance deserves. Since compost is an essential element in any broad strategy to conserve and enhance soils, the development and implementation of a multi-ministry organic residual strategy would be a good step in rectifying this deficiency.

Recommendation 12

The ECO recommends that the Ministry of the Environment lead a multi-ministry initiative to create a new compost-centred policy vision for the management of organic residuals in Ontario.

For ministry comments, please see Appendix C.

6.4.1 Biochar: The Promising Future of an Ancient Process

Over the past two years, a buzz has been building amongst experts in the fields of climate change and agriculture. Media reports have highlighted a new product: one that promises to sequester carbon dioxide in a cost-effective way, increase agricultural yields, reduce polluting run-off from agricultural land, and increase the efficiency of fertilizer and water use. This "new" product is called *biochar*. It is a complex substance with many possible variations in composition, structure and quality. When produced from wood fuel, we know it as charcoal.

Biochar's first use as an agricultural amendment was by the indigenous cultures of the Amazon rainforest, thousands of years ago. By burying charcoal mixed with organic wastes, such as food scraps, the ancient people were able to turn poor, low fertility rainforest soils into fertile cropland. Scientists currently studying these soils (called *terra preta*) are amazed that they have retained their fertility to this day, without any further human inputs.

The modern, high-tech method of biochar production is called pyrolysis. Fuel – usually wood or agricultural waste, but any organic material can be used – is heated to a high temperature in a low-oxygen environment. The products generated include oil, gas and biochar. The latter can contain as much as half the carbon in the original fuel. The oil can be processed into a biofuel and/or a variety of different oil-based products, while the gas can be used to fuel the pyrolysis process itself. Biochar can be produced at a very high-tech scale – at least one Canadian company is already doing so in Ontario – or at a low-tech, individual scale, using simple cooking stoves.

Adding biochar to soil provides two basic benefits. The first arises from the fact that most of the carbon in biochar resists decomposition by microbes in the soil. In essence, the concept is one of delaying the carbon cycle. Biological material that has been created by fixing atmospheric carbon through photosynthesis ordinarily delivers its carbon back into the atmosphere when the organic material decomposes. By delaying this decomposition, biochar effectively sequesters the carbon in soil. The second benefit has to do with soil health. Studies show that biochar can enhance nutrient-holding capacity, increase moisture retention and build biological biodiversity – substantially improving the soil's health, fertility and resilience.

However, biochar has its detractors. Some question its value for Ontario's young and relatively fertile soils. Although more research is needed, an early trial in Quebec suggests some increase in yields and increased fertilizer-use efficiency. OMAFRA's soil specialists consider the positive claims for biochar as "intriguing but unproven," and the ministry has already provided scientific support for new research.

Skeptics have also questioned the length of time the carbon in biochar will remain sequestered. While recent research suggests that the sequestration is very long term (i.e., hundreds or even thousands of years), caution and more research are definitely required. Finally, some observers feel that if biochar were eligible for carbon credits it would put the world's remaining natural areas at risk – as well as the human and ecological communities that depend on them. The concern is that large multinationals may convert these areas into crop or forest monocultures designed to fuel biochar production.

In current times, as in ancient times, biochar brims with promise. Several internationally acclaimed scientists have gone on record as supporting increased research and the development of policy and programs to promote biochar production and use. Despite its tantalizing promise, however, there are undeniable risks if the technology is misused.

The ECO encourages OMAFRA to give biochar research, both by its staff and in partnership with universities and the private sector, a very high priority. The ECO also encourages OMAFRA to begin to address the risks associated with biochar production, with an eye to the development of guidelines. In our 2008/2009 Annual Report (page 158), the ECO recommended that Ontario develop a provincial Guidelines for biochar production and use should be a major component of that strategy.

Recommendation 13

The ECO recommends that the Ministry of Agriculture, Food and Rural Affairs and the Ministry of the Environment develop guidelines, with public consultation, for biochar production and use in Ontario.



Part Seven

Public Concerns Raised: Applications

If Ontario residents believe the environment is not being protected, the *EBR* gives them the right to ask prescribed ministries to review an existing policy, law, regulation or instrument (such as a Certificate of Approval or permit). Ontarians can also request prescribed ministries to review the need for a new law, regulation or policy. Such requests are called applications for review.

Ontario residents can also ask ministries to investigate alleged contraventions of specific environmental laws, regulations and instruments. These are called applications for investigation.

Members of the public often raise important environmental issues through applications, sometimes focusing on site-specific case studies, sometimes critiquing province-wide laws or policies, and sometimes drawing attention to policy vacuums. Applicants often support their arguments with an impressive level of technical knowledge and thoughtful insight, and can show admirable passion, tenacity and patience in the face of frustrating situations. Applications serve as an important ground-truthing mechanism for both the ECO and ministries, highlighting issues that really matter to the public, and often spurring further research.

Ontarians submit their applications for review or investigation to the Environmental Commissioner of Ontario, where they are reviewed for completeness. Having decided that a particular application meets the requirements of the *EBR*, the ECO forwards it to the appropriate ministry. The ministry then decides either to carry out the requested review or investigation, or deny the request. Individual applications may be forwarded to multiple ministries if appropriate. The ECO reviews and reports on the handling and disposition of applications by ministries.

The following nine ministries are required to respond to applications for review:

- the Ministry of Agriculture, Food and Rural Affairs (OMAFRA);
- the Ministry of Consumer Services (MCS);
- the Ministry of Energy and Infrastructure (MEI);
- the Ministry of Environment (MOE);
- the Ministry of Health and Long-Term Care (MOHLTC);
- the Ministry of Municipal Affairs and Housing (MMAH);
- the Ministry of Natural Resources (MNR);
- the Ministry of Northern Development, Mines and Forestry (MNDMF); and
- the Ministry of Transportation (MTO).

Applications for investigation may be filed for alleged contraventions under 19 different laws that are prescribed under the *EBR* and for contraventions of any regulations under those laws. Applications for investigation may also be filed for alleged contraventions of prescribed instruments issued under 15 different laws, administered by four ministries (MOE, MMAH, MNR, MNDMF) and one agency (the Technical Standards and Safety Authority of the Ministry of Consumer Services). Please see the ECO's website for an up-to-date list of ministries and laws prescribed under the *EBR* at www.eco.on.ca.

In the 2009/2010 reporting year, the ECO completed reviews of 26 applications for review and 11 applications for investigation. The ministries agreed to carry out *EBR* reviews or investigations for nine of these 37 applications. In five cases where ministries denied the request for a review or an investigation, the ECO disagreed with the ministry decision, believing that the issues deserved scrutiny under the *EBR*.

The following pages provide some highlights of selected applications completed in the 2009/2010 reporting year. The issues are very diverse, such as the need for environmental safeguards when natural gas or wind powered electricity plants are built; the need for more rigour when exemptions are granted for aggregate licences; and the need to consider moraines as important land forms in local land use planning. Please see Sections 5 and 6 of the Supplement to the Annual Report for detailed reviews of all applications completed under the EBR in 2009/2010.

7.1 Pushing for Natural Heritage Planning on the Waterloo and Paris-Galt Moraines

The Growth Plan for the Greater Golden Horseshoe (Growth Plan), which establishes specific density targets and planning priorities for the region, expects the region's population to increase by four million people by 2031. The Growth Plan establishes five urban growth centres within the Grand River watershed. These communities depend on groundwater and/or limited surface water supplies for drinking water. Nutrients and other pollutants from treated and untreated wastewater are discharged into the Grand River.

There is a tension between meeting the Growth Plan population targets and protecting the water resources of watersheds. If demand for water outstrips supply, municipalities will need to import water to deal with water shortages. They must also ensure water infrastructure can handle the discharged water. The situation is further compounded by the effects of climate change; by mid-century, Southern Ontario will experience an average 2.6 degrees Celsius warming in the summer with consequent increased evapo-transpiration.

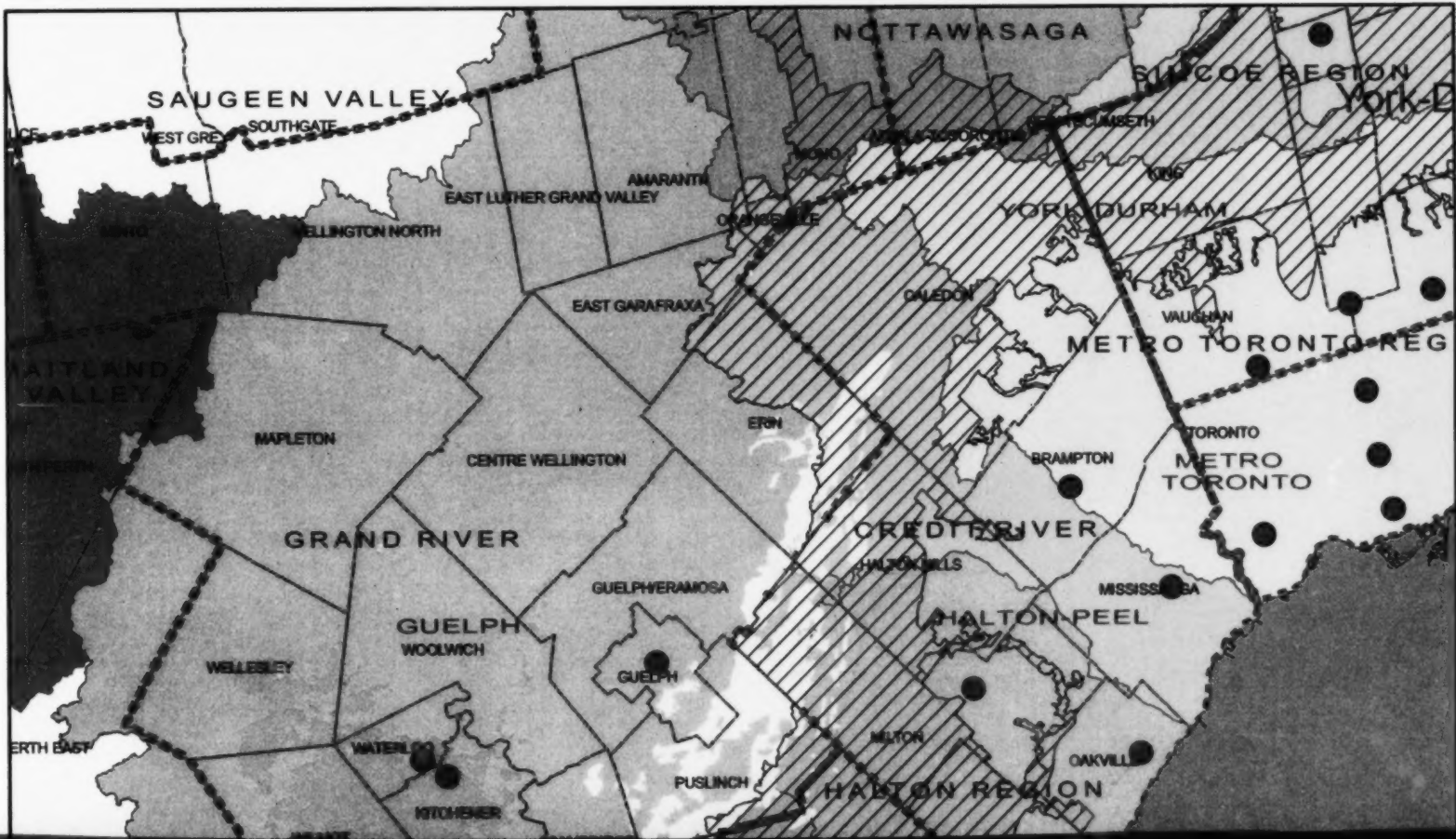
The Moraines

Moraines are a geological feature formed at the edge of glaciers traversing across the landscape. The glacial sand and gravel deposits act like a sponge, absorbing rain and snowmelt. The water stored in the moraine's aquifers is filtered and slowly released into lakes, rivers and streams. As such, moraines are often an important source of drinking water and act as a recharge/discharge area for watersheds. The forested areas of the moraine typically support diverse ecological habitats.

The Waterloo Moraine spans approximately 400 square kilometres of the Grand River watershed in the Region of Waterloo. The municipalities of Waterloo and Kitchener have developed on the central portion of the moraine. The multi-aquifer provides water to the majority of Kitchener/Waterloo inhabitants and those in rural areas west of the municipalities.

The Paris and Galt Moraines extend 560 square kilometres from Caledon to Norfolk County. The moraines are significantly lower in relief than the Waterloo Moraine and have a relatively permeable surface geology. These features contribute to high levels of recharge into the moraines, supporting coldwater streams and wetlands. While the moraines are not subject to imminent development pressures, Guelph and Cambridge are set to reach density targets by 2031. Significant aggregate extractions are also occurring on the Paris and Galt Moraines.

Conservation Authority Watersheds Relative to Moraine Features





Legend

- Urban Growth Centres
- ▨ Greenbelt area
- Lower municipalities
- Paris - Galt Moraine
- Waterloo Moraine
- MOE District Boundaries

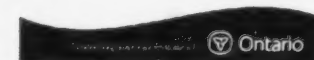
Ministry of the Environment Technical Support Section, West Central Region

The maps shown here are for illustration purposes only and are not suitable for site-specific use or applications. Ministry of the Environment provides this information with the understanding that it is not guaranteed to be accurate, correct or complete and conclusions drawn from such information are the responsibility of the user. While every effort has been made to use data believed to be accurate, a degree of error is inherent in all maps. Map products are intended for reference purposes only, and the Ministry of the Environment will accept no liability for consequential and indirect damages arising from the use of these maps. These maps are distributed "as-is" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use.

Produced by Ministry of the Environment under
Licence with the Ontario Ministry of Northern Development and Mines
© Queen's Printer for Ontario, 2007

Data provided by the Ministries of the Environment, Natural Resources, and Northern Development and Mines
Ontario Geological Survey 2003, Surficial geology of Southern Ontario;
Ontario Geological Survey, Miscellaneous Release-Data 128.

0 3 6 12 18 24 Kilometers



The Applications for Review

In June/July 2006, and in May 2007, the ECO received three separate applications for review outlining the need for a new policy or act to protect the Waterloo, Paris and Galt Moraines. The applicants asserted that increased growth would detrimentally affect the quality and quantity of groundwater, and increase the risk of well contamination, floods and water shortages. The applicants contend existing policies and laws are insufficient to protect the moraines.

The Ministry of Natural Resources (MNR) and the Ministry of Municipal Affairs and Housing (MMAH) denied all three applications (see Section 5.3.3 of the Supplement to the 2007/2008 Annual Report). In mid-2007, MOE agreed to review the necessity of a law or policy to protect the moraines. The review excluded policies not under MOE's mandate (i.e., the Provincial Policy Statement [PPS], the Greenbelt Plan and the Growth Plan). Also, the review did not examine decisions made within the last five years (e.g., *Clean Water Act, 2006* [CWA], *Ontario Water Resources Act* [OWRA], *Nutrient Management Act, 2002*, and the *Environmental Assessment Act*).

Ministry Response

In May 2009, MOE released a report on its review that concluded new provincial policy or legislation was not required to protect the moraines. The report found that the Waterloo Moraine has been extensively studied. It was experiencing local contamination issues at several well fields, particularly from road salts and fertilizers. The area did not face decreases in water quantity. The report noted the Region of Waterloo has been proactive in water resource protection; however, no specific land-use controls have been proposed. Additional water budget studies are being completed.

Regarding the Paris and Galt Moraines, the report found there was detailed hydrogeology data in the developed areas of the moraines, but insufficient data for the majority of the moraine. Water level trends are stable, and there are high levels of recharge into the moraines. While groundwater quality is being affected by agriculture, septic systems and de-icing material, gravel extraction does not appear to be affecting groundwater, surface water or wetlands.

Although not reviewed, the report found that the CWA, the PPS, the Greenbelt Plan and the OWRA provide adequate protection for groundwater recharge in the Upper Grand River watershed. MOE stated that the CWA would address most of the applicants' concerns over drinking water once source protection plans are implemented.

MOE revealed that additional water resource studies were underway and expected to be completed in 2010. MOE committed to developing guidance materials to assist with the implementation of policies protecting hydrologic functions of the moraines.

ECO Comment

The ECO believes MOE's research outlining the hydrogeology of the moraines, as well as the applicable laws and policies, is important and is to be commended. But it is not the final step in determining how best to protect water resources for future generations. If the principles of watershed-based planning are applied to an examination of the environmental and socio-economic context of

the moraines, the ECO believes current provincial policies do not adequately protect the ecological integrity and hydrogeology of the moraines.

On the 10th anniversary of the Walkerton water tragedy, we are reminded of the critical role water plays in the environmental, social and economic well-being of our communities. Our 2006/2007 Annual Report found that "serious conflicts are inherent in the province's plans for balancing growth and ecosystem sustainability." These conflicts must be addressed in a proactive manner through the mandated use of a systems-based approach that requires the explicit prioritization of ecological and hydrological integrity in land use planning. Sustainability requires regular assessments of where development is feasible and how much growth the natural environment can support. Although MOE's report provided excellent benchmarking information on the moraines, it did not assess whether the ecological capacity of the moraines can realistically accommodate the projected growth in the region. Nor did it examine the cumulative environmental effects from the projected growth.

Not only does the Growth Plan fail to require population allocations be adjusted for communities with watersheds close to or already at carrying capacity, it favours large-scale infrastructure projects aimed at overcoming the natural limits to growth. Waterloo is proposing to address any future water shortages by constructing a pipe to Lake Erie. Such infrastructure projects override ecological carrying capacities and are exempt from natural heritage protections in the PPS and Greenbelt Plan, despite their significant environmental effects. Provincial policies, such as the Growth Plan, favour development over sustainable planning processes.

A comprehensive systems-based plan for natural heritage protection and land use planning is needed. The moraines extend across several cities and regions, each with their own official plans and zoning. The resulting piecemeal approach to planning and protection can leave environmentally significant areas vulnerable or under-protected, thereby compromising the entire landscape. Although the province's land use planning laws and policies are laudable in some respects, our past reviews reveal that they were ineffective in preventing, curtailing or modifying environmentally destructive developments.

Natural features, such as moraines, should be the basis upon which local land use planning decisions are weighed. Yet the province does not specifically identify moraines as a landform or natural heritage feature to be considered for protection. On numerous occasions, the province has asserted its planning system is adequate to protect significant environmental features. Yet, it has created specific laws and policies for several vulnerable regions, including the Oak Ridges Moraine, the Greenbelt and Lake Simcoe.

The province must use the opportunity of the current PPS review to make a strong commitment to ecosystems-based planning in Ontario. MMAH should revise the PPS to require that the diversity and connectivity of natural features, as well as their long-term ecological function and biodiversity, be maintained and restored.

Recommendation 14

The ECO recommends that the Ministry of Municipal Affairs and Housing amend the Provincial Policy Statement to require that the long-term ecological function and biodiversity of natural heritage systems are maintained.

For a more detailed review of this application, please refer to Section 5.2.3 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

7.2 The Potential Impacts of Electricity Projects on the Environment

With the passage of the *Green Energy and Green Economy Act, 2009* and the implementation of Ontario's Feed-in Tariff program (see Part 2.1 of this Annual Report), an increasing number of renewable energy projects are being connected to the province's electricity grid. While cleaner energy sources are certainly needed to address climate change and improve poor air quality, it is still imperative to fully and appropriately consider the potential environmental impacts of all electricity projects.

This year, Ontarians used their *EBR* rights to file several applications related to the construction and operation of electricity projects. The ECO reports on the government's handling of these applications in this part of the Annual Report. For more information, refer to Sections 5 and 6 of the Supplement to this Annual Report.

Environmental Assessment Requirements for Electricity Projects

In May 2009, two applicants requested that the Ministry of the Environment (MOE) review O. Reg. 116/01 – Electricity Projects, made under the *Environmental Assessment Act (EAA)*, which establishes the environmental assessment requirements for electricity projects, as well as the ministry's Guide to Environmental Assessment Requirements for Electricity Projects (the "Guide"). The Guide classifies projects into one of three categories – either A, B or C, based on size, fuel type and facility efficiency – which indicates the depth of environmental review prescribed by the regulation.

The applicants argued that large natural gas facilities are misclassified in O. Reg. 116/01 and the Guide. In the Guide, all natural gas facilities five megawatts or larger are placed in Category B. At the time the application was submitted, several renewable energy projects were also in the same category. Projects in Category B are not required to undergo a full individual environmental assessment (EA), but only to follow a proponent-driven Environmental Screening Process (ESP). The applicants argued that natural gas facilities, which are fossil-fuel based and can produce toxic emissions and greenhouse gases, should follow the full EA process. The applicants also expressed concerns that the ESP is: inherently biased; does not require a rigorous assessment of site-specific potential environmental impacts; and does not require consideration of the need for the project, project alternatives, cumulative impacts or local ambient air quality.

Ministry Response

In July 2009, MOE denied the application, stating that the regulation and Guide categorize projects based on similar scale and environmental effects. MOE stated that projects with known and mitigable environmental effects are grouped together and subjected to an ESP, and that only projects with "known significant environmental effects," such as coal-fired facilities, are placed in Category C and subject to the higher scrutiny of an individual EA. MOE stated that because the environmental effects of large natural gas-fired facilities are mitigable, these projects are properly classified as Category B. MOE asserted that little environmental harm would occur if a review was not conducted since the public can request that a proposed Category B project be elevated to an individual EA. Moreover, the ministry

noted that since the EA process, like the ESP, is carried out by the proponent, many of the applicants' concerns would still not be addressed if individual EAs were required for larger natural gas facilities.

MOE responded that because questions about "need" and "alternatives" are considered during other planning processes, it would be "inappropriate to require project proponents to duplicate an existing assessment." With regard to cumulative impacts, MOE indicated that it is currently reviewing its EA processes to determine how to consider cumulative effects in stressed airsheds and watersheds. MOE noted it has the authority to impose conditions in Certificates of Approval and require proponents to assess and mitigate negative impacts on air quality.

In September 2009, O. Reg. 359/09 – Renewable Energy Approvals, under the *Environmental Protection Act (EPA)*, amended O. Reg. 116/01 such that most renewable energy generation projects (several of which were classified as Category B) are now exempt from having to comply with the screening process prescribed by O. Reg. 116/01.

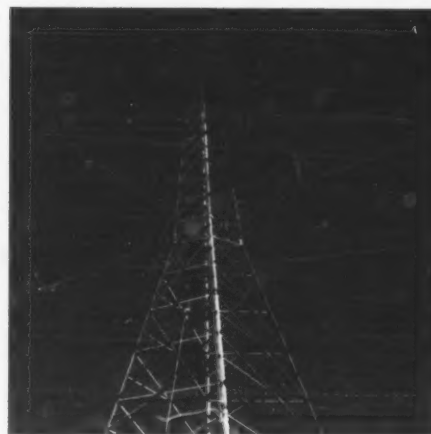
ECO Comment

The ECO disagrees with MOE's decision to deny this review. Nine years have passed since the regulation first came into effect and Ontario's regulatory landscape and generation mix for electricity have shifted so dramatically that a review of this regulation is warranted.

In denying the review, MOE noted that the replacement of coal-based electricity generation with natural gas will result in improved air quality and substantial health benefits. While this is true, the ECO does not believe this validates denying the review. The ECO believes that the more appropriate comparison to determine whether large natural gas facilities are appropriately categorized would have been to compare the air emissions of these projects with other Category B projects, including wind turbines, biomass and smaller scale hydroelectric facilities, each of which release little to no air pollutants.

The ECO has expressed concern in the past with MOE's approach to bump-up requests under the EAA. While the ministry apparently receives approximately 60 to 70 such requests a year, the ECO is unaware of any bump-up requests that have been granted. The ECO, therefore, questions MOE's assertion that the opportunity exists for members of the public to request a bump-up through the ESP process. A request that is never granted rings as a hollow promise.

For example, in response to the proposed York Energy Centre (YEC) development in York Region, concerned citizens made multiple requests to MOE to elevate the project to an individual EA. These concerns focused primarily on the possible impacts of the proposed natural gas-fired generator on agricultural land and water, and whether the facility would conform to local and provincial planning policies. Each of these requests was denied. The ECO believes that many of the elevation requests made compelling arguments, and that if such requests were not granted in this particular case, it is difficult to imagine a situation where such requests would be approved. The ECO suggests that the problems with the ESP illustrated by the YEC provide sufficient grounds for a review of O. Reg. 116/01 and the Guide, with regard to large natural gas facilities.



The ECO also disagrees with MOE's assertion that fundamental questions about "need" and "alternatives" are being asked under other planning processes. The ECO notes that in May 2010, the government posted a notice on the Environmental Registry (#011-0037) proposing to exempt the YEC from the *Planning Act* and, therefore, facilitate the development of this power plant.

For a more detailed review of this application, please refer to Section 5.2.12 of the Supplement to this Annual Report.

Review of the Noise Criteria for Wind Farms in Rural Areas

In December 2009, MOE received an application requesting that the ministry review its noise standards for wind farms in rural areas. The applicants argued that the rural noise limits in the provincial Noise Guideline (NPC-232) are unfair to rural residents because they disregard that ambient noise levels (i.e., background noise) in rural areas are lower than in urban areas such that any noise introduced into a rural setting is more audible and consequently more disturbing to residents. The applicants also argued that noise from wind turbines contributes to detrimental health effects for those living near wind farms. They argued that turbine setbacks should be increased to protect rural residents. The applicants filed similar applications with MOE in 2006 and 2008, both of which were denied by the ministry.

Ministry Response

In February 2010, MOE denied this request, citing similar reasons to those it gave in response to the previous applications for review. MOE stated that a 2006 peer review of the Noise Guideline recommended no changes to the sound limits for stationary sources or to the sound level adjustments. The ministry asserted that the noise limits were based on scientific evidence and would ensure that its technical standards protect the environment. MOE also explained that in 2007, an independent noise expert reviewed the ministry's Noise Guideline for Wind Farms and concluded that the ministry's approach was scientifically sound. Likewise, MOE stood by its required 550-metre setback between wind turbines and residences, indicating that its guidelines are based on scientifically sound information and were developed in a transparent and peer-reviewed process.

MOE stated that it was in the process of consolidating its current noise guidelines and seeking information on the potential health effects of low frequency noise emissions and the regulation of low frequency noise in other jurisdictions. MOE confirmed that any new guidelines would be posted on the Environmental Registry for comment.

ECO Comment

In recent years, the ECO has received numerous complaints regarding disturbances from wind turbines. At the same time, there is public demand for the province to move towards cleaner energy sources. Clearly, a balancing of priorities is needed to preserve the health and well-being of those living near rural wind farms, while undertaking initiatives to ameliorate the air we breathe and reduce greenhouse gas emissions.

The ECO reiterates comments made in the Supplement to the ECO's 2008/2009 Annual Report: many of the concerns over wind turbines in rural areas could be resolved by proper land use planning principles and appropriate exclusion zones for wind power development.

The ECO supports the consolidation of the various noise related guidelines into a single accessible and understandable document and urges MOE to ensure that the document is user-friendly and comprehensible. The ECO is also pleased that MOE is seeking expert advice related to the potential health effects of low frequency noise. The ECO strongly encourages the ministry to consult with affected individuals as part of its study since many of the symptoms rural residents experience may not be easily measured by scientific studies. The ECO notes that such consultation was absent in the 2006 peer review of sound level criteria.

The ECO urges MOE to review studies being conducted on the potential impacts of turbine noise and consult the public in order to re-evaluate appropriate setbacks and noise level limits for wind turbines. The ECO will continue to monitor and report on developments on this topic in future reports.

For a more detailed review of this decision, please refer to Section 5.2.17 of the Supplement to this Annual Report.



Photo: Stacey O'Malley

Alleged Contraventions in the Construction of the Wolfe Island Wind Project

On May 8, 2009, two Ontario residents submitted an application for investigation alleging that two companies had contravened approvals issued under O. Reg. 116/01. They alleged that the widening of a road and replacing of a culvert during construction of a wind farm on Wolfe Island had caused unaddressed harm to a provincially significant wetland (PSW).

The applicants also alleged that the local municipality contravened section 17(1) of the EAA by using "waste" materials obtained from the wind project site as fill in the road widening without approval from MOE, as well as contravened section 23(1) of the *Aggregate Resources Act* (ARA), by extracting aggregate from the wind project site without a wayside permit. (Wayside permits allow the extraction of aggregates from private lands in designated areas for short-term public projects of road construction.)

The application was sent to both MOE and the Ministry of Natural Resources (MNR).

Ministries' Responses

MOE reviewed the Environmental Review Report (ERR) submitted by the proponents for the wind project and concluded that an EBR investigation was not warranted. MOE concluded that the road widening was undertaken by the municipality as part of its responsibilities to provide routine maintenance and was subject to the Municipal Class EA developed by the Municipal Engineers

Association. MOE also explained that the materials used by the township in the road widening were "inert fill" as defined by Reg. 347 – General – Waste Management, under the *Environmental Protection Act* (EPA) and were exempt from the waste management provisions of the EPA and EAA. Further, MOE concluded that because the road widening was within the existing municipal right-of-way and covered by the Municipal Class EA, no approval was required for disposing of the material obtained from the wind project site. MOE also found that "the work related to the culvert replacement was done in accordance with the commitments made by the companies in the ERR." MOE concluded, therefore, that no contravention of O. Reg. 116/01 had occurred.

Like MOE, MNR determined that an investigation was not warranted. MNR noted that a wayside permit is not required if the excavated material results from erecting a building or structure on the excavation site. MNR stated that "since the excavation is integral to the development [of] a structure (i.e., foundation of a wind turbine) the extraction activity does not meet the definition of quarry under the ARA. Consequently, subsection 23 (1) of the ARA does not apply." In its decision response, MNR noted that in January 2009 it had received a complaint regarding possible impacts on fisheries habitat in the PSW. In response, the ministry had advised the complainant to contact the federal Department of Fisheries and Oceans.

ECO Comment

The ECO believes that MOE's decision not to investigate was reasonable since the applicants' allegations and evidence were based on incorrect interpretations of statutes and regulations. As MOE pointed out, municipalities have the authority under the Municipal Class EA to undertake road widenings within municipal road rights-of-way. Moreover, the ERR for the wind project recognized and approved the need for the road widening, stipulating that any damaged culverts be replaced appropriately. The ECO notes, however, that MOE failed to mention what provisions, if any, are provided to PSWs by the Municipal Class EA.

While the ECO also agrees with MNR's decision not to investigate and its interpretation of the applicability of section 23(1) of the ARA, the ECO is troubled by the ministry's apparent lack of concern regarding potential impacts of the new culvert on water levels in this PSW. Although MNR noted that it had not observed any non-seasonal changes in the wetland's water levels between fall 2008 and spring 2009, the ministry also indicated it had no historical information on water levels in the wetland. MNR's lack of information about the wetland is troubling and suggests that the ministry does not sincerely embrace its responsibilities to protect PSWs.

The ECO is also disappointed with MNR's apparent lack of concern regarding the potential loss of fisheries habitat. In our 2007/2008 Annual Report, the ECO noted the respective responsibilities of provincial ministries within the Fish Habitat Compliance Protocol and strongly advised MNR and MOE to modify the 2007 Compliance Protocol agreement so that their responsibilities to protect fish and fish habitat are met. To date, this modification has not occurred. This is particularly concerning given MNR's own admission that it has no historical information to determine what constitutes a change in water levels in this PSW. The ECO believes that the ministry should have committed to longer-term monitoring of water levels in this wetland.

For a more detailed review of this application, please refer to 6.2.1 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

7.3 Sand Excavation: When a "Pit" is not a "Pit"

In the spring of 1996, the owners of a large farm property in eastern Ontario sent a letter to the Ministry of Natural Resources (MNR) seeking permission to remove some "sand hills" from their property without obtaining an aggregate licence. The owners stated that the purpose of the extraction was to "improve the agricultural value" of the property.

Normally, under the provincial *Aggregate Resources Act (ARA)*, any extraction that constitutes a "pit" requires an aggregate licence. A "pit" is defined in the ARA as any land from which unconsolidated aggregate is being excavated, unless it meets one of the two exceptions set out in the Act, namely:

- 1) the land is excavated for a building or structure on the excavation site; or
- 2) the minister (or an authorized delegate) is of the opinion that "the primary purpose of an excavation is not for the production of aggregate" and has issued an Order declaring that the excavation is not a pit.

The ARA does not establish any other exceptions.

In this case, however, MNR staff concluded that the extraction was not a "pit" because the primary purpose of the extraction was not for aggregate production, and therefore determined that the proponents did not require a licence. The ministry did not issue an Exemption Order.

Initially, the ministry provided an exemption for up to five years or 5,400 tonnes of sand, whichever came first. MNR clearly stated that beyond this, the proponents would require a licence. However, in 2001, when the exemption should have expired, MNR apparently told the proponents that they could continue extracting sand from their property without a licence because the ARA did not apply to their excavation.

By 2004, the proponents were still removing aggregate from their property, and members of the public were raising concerns. MNR staff visited the property in October 2004, but again concluded that the excavation was not a "pit" and the requirement for an aggregate licence did not apply.

In October 2008 – over 12 years after the extraction had begun – an MNR Aggregate Inspector visited the property with a specialist from the Ministry of Agriculture, Food and Rural Affairs (OMAFRA) to determine if the ongoing extraction was improving the agricultural value of the land. OMAFRA found that there was "no change to the soil classification other than providing higher moisture content. It was also observed that there were some locations where it appeared to be too wet to plant which may be a result of extracting too deep or the wet year we had."

OMAFRA's observations suggest that very little, if any, agricultural improvement had resulted from the extraction. Nonetheless, MNR allowed the proponents to continue extracting sand, but only for a defined area of the property. MNR told the proponents that extraction beyond this limit would require an aggregate licence.

In June 2009, two applicants requested an investigation of this unlicensed sand removal. The applicants alleged that, over the last 13 years, hundreds of thousands of tonnes of sand have been extracted from the property without an aggregate licence, contrary to the ARA. While it is not known

exactly how much sand has been extracted, MNR estimates that, as of October 2008, approximately 163,000 tonnes had been removed from the property.

The applicants also alleged that the proponents' excavation has caused a number of environmental impacts, including impairment of the local creek through excessive siltation and degradation of the proponents' farmland to the point that the land can no longer be used for agriculture (For more information on this issue and the ministries' response, see Section 6.2.2 of the Supplement to this Annual Report.)

As of February 2010, extraction was still ongoing.

Ministry Response

MNR denied this application for investigation. The ministry stated that it is of the view that the primary purpose of the excavation is for agricultural purposes. As the primary purpose is not aggregate extraction, MNR does not consider the excavation to be a "pit." Therefore, the proponents did not require a licence and cannot be considered to have contravened the ARA.

MNR also stated that a Minister's Order declaring that the excavation was not a "pit" was not necessary as an Order is only required "where there is a dispute between MNR and the relevant municipality" about whether the excavation is a pit. As support for this position, the ministry referred to MNR Policy A.R. 5.00.05 (Determination that Excavation is not a Pit or Quarry), which states that an Aggregate Inspector may determine that an excavation is not a pit if the "primary purpose" of the excavation is not for the production of aggregate. This policy further states that a Minister's Order is generally not required to carry out this exemption.

ECO Comment

The ECO is very disappointed with MNR's response to this application. While the ECO accepts MNR's position that the proponents have not contravened the ARA (precisely because MNR determined that the ARA does not apply, and thus no contravention is possible), this case has highlighted some serious issues with the ministry's policies and practices in exempting excavations from the ARA.

First, the ECO has significant concerns with MNR's Policy A.R. 5.00.05. This policy appears to modify the legislative definition of "pit" by creating new and different exemptions than those set out in the Act. The policy suggests that an Aggregate Inspector may exempt an extraction from the ARA without an Order. This seems contrary to the Act, which explicitly requires that an Order be issued in order to establish the "primary purpose" exemption. Whereas an Order provides certainty of process, the informal nature of the exemption as set out in the policy provides less transparency for the public, as well as a weaker process for issuing and overseeing exemptions.

A policy document simply has no authority to override legislation. Accordingly, the ECO strongly encourages MNR to review Policy A.R. 5.00.05 and its implementation.

Second, even accepting that MNR staff may informally exempt an excavation where the primary purpose is not aggregate extraction, the ECO has serious concerns with MNR's approach to

determining the primary purpose of the excavation. It appears that the ministry simply relied on the proponents' statements that the extraction was for agricultural improvement. The ministry did not seek supporting materials or independently verify the validity of the proponents' claim. Even after 12 years had passed and more than 160,000 tonnes of sand had been trucked away, and even in the face of contrary evidence from OMAFRA, MNR continued to accept the proponents' assertions that the extraction was for agricultural improvement.

Based on this case, it would appear that any proponent could merely state that their extraction was not for the purpose of producing aggregate, and MNR would allow them to remove large quantities of aggregate without a licence. The ECO believes that there needs to be more rigour before such a blanket exemption from the requirements of the ARA is provided. The ECO strongly encourages the ministry to review its policy and practices in excluding extractions from the purview of the Act.

Finally, the ECO notes that OMAFRA, while not directly responsible for the exemption, also bears some responsibility in ensuring that exemptions provided in the name of protecting or improving agricultural values are exercised appropriately. In Ontario public policy, agricultural activities are protected through many privileges; OMAFRA must ensure that these privileges are not abused.

For ministry comments, please see Appendix C.

7.4 Not Enough Time: Challenging the Appeal Period under the EBR

The overarching purpose of the *Environmental Bill of Rights, 1993 (EBR)* is to provide Ontarians with a way to participate effectively in environmentally significant government decision-making. When a ministry posts a decision on the Environmental Registry about issuing an environmental approval, permit or other instrument, any resident of Ontario may seek permission (i.e., leave) to appeal that decision. Leave is sought from the appropriate appellate body; before allowing the appeal to proceed to a hearing, that body evaluates whether the applicant has met all elements of the threshold test for obtaining leave. The EBR requires that third-party applications on an instrument be received no later than 15 days after the posting of that decision on the Environmental Registry.

In August 2009, two applicants (the "Applicants") requested that the Ministry of the Environment (MOE) review this 15-day time limit, arguing that it is too short to complete the multiple tasks required to prepare an application. They asserted that the 15-day time period handicaps poorly-resourced individuals and Ontarians without regular Internet access to monitor Environmental Registry notices. Moreover, they asserted that applications can be dismissed for being a few minutes late, even in circumstances (e.g., power outages, courier delays) that are beyond the applicant's control. Finally, the Applicants identified additional factors that exacerbate problems with the 15-day leave to appeal period, including: irregularities in the posting of ministry decisions; delays in obtaining background documents from the ministry; and lack of notice on instrument decisions outside the Environmental Registry. The Applicants asserted that the time limit should be extended to 30 days "in order to more fully respect the public participation objectives of the EBR."

Ministry Response

In October 2009, MOE denied the application, stating that it "must balance [the Applicants' concern] with timeliness in decision-making and long established appeal standards under other statutes." MOE disagreed with the Applicants' contention that the 15-day time limit is too onerous, noting that a similar time period is found in other Ontario statutes and that MOE's appellate body, the Environmental Review Tribunal (ERT), requires the receipt of only the application itself during the 15-day period. Additional time is allowed for filing supporting materials.

Similarly, MOE disagreed that providing notice only via Internet contributes to alleged problems with the 15-day time limit, contending that Environmental Registry notices give "everyone an opportunity to participate." Further, MOE insisted that efforts have been made to make the Environmental Registry "as easy and user-friendly as possible," and that the redesigned format of decision notices improves readability and search capabilities.

Finally, MOE stated that it would be unfair to extend the time for third parties to seek leave to appeal when appellants (i.e., instrument holders) challenging the same decision only have 15 days to appeal from the date the decision is made.

ECO Comment

The ECO finds MOE's reasons for denying this application unconvincing.

The ECO is troubled by MOE's suggestion that, since applicants need only submit their leave applications during that time, the 15-day time limit is sufficient. Suggesting that applicants file skeleton applications and fill in the details later encourages the submission of potentially unwarranted applications that would consume the limited resources of the appellate body, applicants and instrument holders. Moreover, if MOE accepts that additional time may be routinely required by applicants, this underlines the need for a longer statutory deadline.

MOE concluded that it would be unfair to extend the time for third parties to seek leave to appeal when proponents have only 15 days to appeal the same decision. The ECO believes this position ignores the inequalities inherent between proponents and third parties in receiving notification, understanding the issues and accessing information. Likewise, MOE's argument that the 15-day period provides a standard length of time common to other Ontario legislation is weak since: most of the appeal deadlines in the identified statutes relate to provisions for proponent – not third-party – appeals; the *Planning Act* provides a 20-day appeal deadline for third parties; and, in at least one statute, the appellate body has jurisdiction to extend the deadline for third-party appeals. Moreover, as the applicants argued, the *EBR* leave to appeal process may be a more rigorous process than other regulatory and judicial appeal processes.

MOE's argument that extending the deadline would "reduce timeliness of decision-making" is also unconvincing since extending the deadline by 15 days (as requested by the Applicants) would be negligible in the context of the entire decision-making process, which can take many months to conclude. Ministries frequently take several days and sometimes weeks after issuing an instrument to post decision notices on the Environmental Registry, thus delaying the start of the clock on leave to appeal applications.

MOE failed to consider the Applicants' concern that irregular Internet access can hinder the public's ability to be aware of recent decisions and meet the appeal deadline. Further, MOE's claim that the public can "track, save a notice and be informed of a decision notice" online is not entirely accurate: an Environmental Registry user must still log on and manually select a particular notice from their list of selected notices to determine whether a decision has been made. Finally, the ECO believes that the Applicants' concerns about inconsistencies in Environmental Registry content are valid; there is a wide range in the quality of Environmental Registry notices, from the clarity of language used to the comprehensiveness of information provided.

Since the EBR came into force in 1994, many Ontarians have complained about the inadequacy of the 15-day time limit to file leave applications and the ECO has called several times for an extension of the leave to appeal period to 20 days. Part of the problem is the lack of flexibility available to the appellate body to extend the time where necessary. While the ECO would prefer to see the leave to appeal deadline extended, the Applicants' concerns could be alleviated by giving the appellate body the statutory discretion to extend the deadline in appropriate circumstances.

The issues outlined in this application, as well as the long history of complaints about the deadline, demonstrate that the 15-day leave to appeal period fails to support the public's right to challenge ministry decisions on prescribed instruments. MOE should have undertaken the requested review and considered ways in which this problem could be addressed to better meet the spirit and purpose of the EBR.

For more information on this application for review, see Section 5.2.15 of the Supplement to this Annual Report.

For ministry comments, please see Appendix C.

7.5 Too Much Time Wasted in Cambridge Groundwater Contamination

In April 2009, two applicants requested that the Ministry of the Environment (MOE) investigate the alleged contravention of section 14(1) of the *Environmental Protection Act* (EPA) on their property in Cambridge. Testing by the applicants revealed the presence of two volatile organic compounds (VOCs) – trichloroethylene (TCE) and 1,1-dichloroethylene (1,1-DCE) – in the groundwater of the applicants' property at levels exceeding MOE groundwater standards. Analyses of groundwater flow patterns and concentration gradients indicated that the suspected source of the contamination was east of the site and migrated onto the applicants' property. In response to the contamination, MOE placed an encumbrance on the applicants' property, which prevented the sale of the property. The applicants invested millions to clean their site and place a barrier along their property to prevent TCE from migrating on their site.

The applicants had contacted MOE on several occasions since 2006 on this matter. Displeased with MOE's inaction, the applicants filed an application for investigation.

TCE and its Breakdown Products

TCE is a volatile, non-flammable, colourless liquid that is fairly soluble in water. It is used primarily as a metal degreaser and industrial solvent, and can be released from some dry cleaning processes, paints and coatings. Exposure to TCE can cause headaches, dizziness, damage to facial nerves and rashes. The International Agency for Research on Cancer (IARC) and Health Canada classify TCE as "probably carcinogenic to humans." In groundwater, TCE can break down under anaerobic conditions into 1,1-DCE – another possible human carcinogen with similar health effects as TCE – and vinyl chloride, which is even more toxic than TCE.

Ministry Action

Relying on subsection 77(3) of the *Environmental Bill of Rights, 1993 (EBR)*, the ministry denied the application for investigation in June 2009, stating that it was already conducting an investigation into the source of TCE (see box below).

In 2006, after the applicants first contacted MOE, ministry staff reviewed files and waste records, and conducted site visits to properties adjacent to the applicants. Groundwater sampling in the area indicated an increase in TCE levels since earlier tests in the mid-1990s.

In 2008, MOE requested that several adjacent properties voluntarily conduct and submit groundwater testing. While several properties owners refused, one property (a trailer depot) complied. This sampling revealed that groundwater in several monitoring wells on the trailer depot property exceeded ministry's TCE standards.

In April 2009, MOE asked the trailer depot owner to voluntarily undertake additional hydrogeological assessments. When the property owner refused, MOE installed additional groundwater monitoring wells on the property to determine the TCE source.

Recent Developments

MOE's decision letter indicated that the ministry simply monitored and sampled water, conducted interviews and reviewed records, but it did not use its stronger investigative and enforcement powers to respond to the situation. This raised questions for the ECO on the scope and thoroughness of the investigation. Consequently, in February 2010, the ECO wrote to MOE requesting an opportunity to examine the investigation file and speak with the staff person overseeing the process. MOE complied and informed the ECO that in January 2010, the ministry issued Orders to four adjacent properties to complete Phase 1 and 2 Environmental Site Assessments on their properties.

ECO Comment

Four years since the applicants first alerted MOE of the contamination, the TCE source remains undetermined. Although subsection 77(3) of the *EBR* allows ministries to deny applications that duplicate existing investigations, the ECO is troubled by MOE's handling of the investigation. Notably,

much of the ministry's action occurred after the EBR application was filed and the ministry had issued its decision letter.

Although the ECO is satisfied that MOE continues to investigate the TCE in this area, delays in issuing the Orders suggest that MOE neglected to devote adequate resources to its investigation, thereby undermining the EPA's prompt remediation purpose. MOE could have issued the Orders after a May 2008 ministry assessment report identified several TCE hotspots and showed that TCE levels were increasing on the monitored properties. Instead MOE waited another year-and-a-half to issue the Orders against the property owners who refused to voluntarily comply.

Moreover, MOE's over-reliance on voluntary measures suggests that it failed to use its authority under the EPA and its policy regarding abatement and enforcement tools (the "Compliance Policy") to its fullest potential. This is troubling given that the applicants established bona fide MOE-verified concerns, and that evidence pointed to a specific property and its immediate neighbours as the likely source of a toxic contaminant.

MOE explained in July 2010, that the low concentrations of TCE in the groundwater would not likely cause harm. However, if the TCE levels present a low risk, the ECO questions why the ministry placed an encumbrance on the applicants' property that forced them to incur clean-up expenses and decreased their property value in the millions of dollars.



Photo: Stacey C. Miley

The encumbrance on the property suggests MOE was concerned about the harm posed by the TCE on the property. If this was the case, then the applicants should be protected under section 14 of the EPA, which prohibits the discharge of a contaminant into the natural environment that is likely to cause an adverse effect. Definitions of "adverse effect" include the "loss of enjoyment of normal use of property"; and "interference with the normal conduct of business," which the applicants demonstrated. Instead, MOE shifted the short-term burden of remediating the spill from the ministry or the polluters to the applicants.

The EPA gives MOE the authority to issue Orders to anyone to stop, control, prevent or clean-up any contamination that is being discharged from their property, regardless of whether or not they are the source. The Compliance Policy outlines abatement and enforcement tools (i.e., Orders or voluntary measures) that can be used to address a range of violations of MOE-administered legislation. Moreover, a recent Environmental Review Tribunal decision (*City of Kawartha Lakes v. MOE* (2009)) re-affirms MOE's authority to use the Compliance Policy to hold any party, not just the polluter, responsible for the remediation of a contaminated property. MOE should have taken stronger compliance actions much earlier against the adjacent property owners. The ECO urges MOE to promptly make full use of its powers in future investigations.

For a more detailed review of this decision, please refer to Section 6.1.2 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

7.5.1 Investigation Denied: A Convenient Dodge of an EBR Responsibility

Ministries often use subsection 77(3) of the *EBR* to deny applications for investigation. This provision gives ministries the discretion to deny *EBR* investigation applications to avoid duplicating a ministry's ongoing or completed investigation.

In some cases, *EBR* applications for investigation are filed in frustration with the ministry's investigative process, timeliness or transparency. Regrettably, these applications are often denied under subsection 77(3) because the applicants triggered the "investigation" by first alerting the ministry to the environmental issue.

The ECO is concerned by ministries routinely denying applications by applicants who contacted the ministry prior to filing their application. Since subsection 77(3) is discretionary, a minister can accept an *EBR* application for investigation on a matter already being investigated. The ECO would like ministries to exercise this discretion more often.

Applicants benefit by having their investigation conducted under the *EBR* because the investigation is afforded the *EBR*'s safeguards of transparency and timeliness. The ECO can also monitor the investigation's progress and report on the results publicly.

Ministries and the public should work together to resolve environmental issues in a prompt and efficient manner. Filing an *EBR* application prior to contacting a ministry could delay action on pressing environmental concerns. However, the *EBR* should not lose its ability to hold ministries accountable when the public is dissatisfied with the investigative process.

The ECO urges ministries to seriously consider the benefits of the *EBR* before using subsection 77(3) to deny an application for investigation. In its decision letters, ministries should provide greater detail on ongoing investigations (i.e., timelines and evidence being collected) and regularly update applicants of its progress.

The ECO will continue monitoring ministry investigations where subsection 77(3) of the *EBR* has been invoked as the basis for denying an *EBR* investigation. When warranted, the ECO will request to review ministries' investigation files for applications denied under this provision.

7.6 Planning for Stormy Weather

On June 11, 2002, Peterborough was hit by a severe summer storm, causing extensive flooding and sewer back-ups. This storm was estimated to be a rare, "one-in-100-year" event. But only two years later, on July 14, 2004, a much more extreme storm battered the city with 230 millimetres of rain in 24 hours and caused flood-related damages in excess of \$100 million.

Such extreme weather examples – early warnings, perhaps, of a changing climate – prompted an *EBR* application in April 2007. The applicants argued for mandatory municipal climate change adaptation strategies, with a focus on stormwater infrastructure.

Ontario does not have a regulation specific to stormwater management, and the current guidance documents available to municipalities related to stormwater do not consider climate change. The

applicants argued that several ministries should address this issue: the Ministries of Environment (MOE), Natural Resources (MNR), and Municipal Affairs and Housing (MMAH). (For a detailed description of this application, see Section 5.2.4 of the Supplement to this report.)

MOE wisely recognized the importance of this issue, and undertook a three-year review of the matter. The ministry's summary report, completed in March 2010, acknowledged a need for a policy framework "to support resilient municipal stormwater management systems." MOE also concluded that the ministry's key guideline for stormwater management needs updating, since the 2003 Stormwater Management Planning and Design Manual (SWMP Manual) focuses mainly on conveyance and end-of-pipe facilities, and fails to address climate change.

The ministry also highlighted the existence of research and monitoring gaps: "no province-wide inventory is available for municipal stormwater systems to gauge the size of the problem or to compare any achieved progress on system condition or vulnerability to climate change." As well, current approvals for stormwater sewage works rarely require reporting on the condition or performance of stormwater infrastructure.

MOE's report recommended that stormwater management be addressed as a collaborative responsibility of several ministries (i.e., MOE, MMAH, MNR, the Ministry of Energy and Infrastructure [MEI] and the Ministry of Transportation [MTO]), along with municipalities and conservation authorities. However, MOE stopped short of committing itself to any actions or timelines.

Bill 72, the *Water Opportunities and Water Conservation Act*, 2010

On May 18, 2010, the Minister of the Environment introduced Bill 72, the *Water Opportunities and Water Conservation Act*, 2010. If passed, the Act would enable a regulation requiring municipalities to submit a water sustainability plan, including an assessment of risks to stormwater management services posed by climate change and a plan to deal with those risks.

ECO Comment

The ECO is pleased that MOE undertook this review and supports the ministry's vision for resilient municipal stormwater management systems. MOE's review signals a move forward from its previous goal for stormwater management – "to minimize the risks of loss of life and property damage due to urban floods" – to a more holistic goal that considers ecosystems and climate change. However, the ECO warns that MOE must act swiftly, with the right tools, in order to bring this vision to fruition.

The ECO is disheartened at the absence of timelines for this needed policy reform. MOE has committed to reviewing the SWMP Manual, revamping the approvals process, and creating a policy framework for municipal stormwater management – but the review does not say how, or when. The ECO expects that these policy reviews and developments will be timely and include public participation.

To redefine Ontario's stormwater management, a suite of innovative approaches will be necessary. No single, low impact development approach or best management practice will be sufficient.

Incentives for innovative source control options are desirable in a transitional capacity. However, over the longer term, mandating green infrastructure would create a more level playing field for developers and municipalities, spark innovation, and ensure Ontario is on track to deal with climate change adaptation.

MOE has no overview of how many municipalities are following best management practices outlined in the SWMP Manual, or to what extent. The lack of monitoring hinders the ability of MOE to identify shortcomings in the SWMP Manual or assist those municipalities unable to meet best management practices. The ECO agrees with the ministry that data collection efforts on uptake are necessary to track and assess vulnerability to climate change; the ECO urges MOE to ensure collected data is publicly available and accessible.

The ECO has observed an even more important information gap, which needs urgent attention. Ontario municipalities are continuing to rely on outdated regional data on the intensity, duration and frequency (IDF) of storms, as they plan and build new infrastructure. With changing weather patterns and climatic conditions, old data can no longer be relied upon to predict future conditions. The province needs to take responsibility to ensure that municipalities have the tools they need – scientifically-based on local, reliable and long-term monitoring data – to adapt stormwater systems to the impacts of climate change. While some municipalities, such as the City of London, have moved forward in developing updated IDF projections and amending their own bylaws to address the need for innovative stormwater solutions, others have not. With recent closures of Environment Canada stream monitoring stations in the province, it is increasingly important that collaborative work be undertaken between provincial ministries, conservation authorities, municipalities and the federal government to ensure that the right data are being collected and fed into municipal planning. The ECO believes MOE should be a lead agency in this initiative.

Recommendation 15

The ECO recommends that the Ministry of the Environment take the lead on collecting appropriate hydrologic data, and creating models, to allow stormwater management planning to reflect changing climate patterns.

For ministry comments, please see Appendix C.

7.7 Protecting Tourism Values in Temagami

Temagami. The very word has powerful cultural and spiritual connotations for many Ontarians. Featuring breathtaking landscapes and more than half the world's remaining old-growth red and white pine ecosystems, the Temagami region is among the most popular wilderness canoeing destinations in the world.

In 2009, Ontarians used their EBR rights to request that forestry operations provide stronger protection of hiking trails, viewsapes and canoe routes in the Temagami area. The ECO forwarded the application to the Ministry of Natural Resources (MNR), the Ministry of the Environment (MOE) and the

Ministry of Northern Development, Mines and Forestry (MNDMF). The ECO also sent the application to the Ministry of Tourism (now the Ministry of Tourism and Culture) as a courtesy.

All ministries turned down this application request, providing valid technical explanations and arguments as to the adequacy of existing approval and consultative processes that guide forestry in the Temagami area. For a more detailed review, see Section 5.4.4 of the Supplement to this Annual Report.

ECO Comment

The ECO accepts the technical validity of the ministry responses, as far as they go. However, the ECO cannot ignore a fundamental and troubling observation on the protections afforded non-timber values. Not only do they fail to protect the wilderness aspect, they also fail to protect hikers, canoeists and other tourists from the sight, noise and dangers of being in close proximity to logging operations. Since the Temagami Forest Management Plan (FMP) was developed in accordance with the current regulatory and policy framework, the ECO has concluded that the existing forest management framework is flawed in how it values resource-based tourism.



Photo: C. Wilkinson

The ECO believes that the *Crown Forest Sustainability Act, 1994* fails to adequately protect wilderness trails and should be amended to make the Ministry of Tourism and Culture responsible for ensuring that resource-based tourism is appropriately valued and protected during forest management planning. The ECO would see much merit in having a representative of the Ministry of Tourism and Culture added to FMP planning teams. In addition, the ECO believes that relying on current market values for assessing non-timber values stifles the growth of the resource-based tourism industry and diversification of local economies. The potential for growing resource-based tourism opportunities when non-timber values are protected must be considered. Ministries need more thoughtful direction on how to measure and weigh tourism and cultural values, using approaches that go beyond mere dollar values. The new measures should also be considered when assessing the sustainability of our forests in the State of the Forest Reports. Until non-timber values are no longer viewed as a constraint on forestry interests, growth of resource-based tourism will be slow and sustainability of our forests will not be achieved.

The government has repeatedly promoted the wilderness values of the Temagami area. However, it has impeded initiatives that would both protect them and allow visitors to experience them. The ECO thinks that the government should review its approach to growing non-consumptive resource-based tourism opportunities in the Temagami area with the objective of defining a clear set of priorities, removing barriers and establishing effective protections.

For ministry comments, please see Appendix C.

7.8 More Applications of Interest: Energy Audits, Biomedical Waste and Funding for Conservation Authorities

We have summarized in the above pages only a few of the many interesting *EBR* applications that were finalized in 2009/2010. For more detailed descriptions of all applications, please see Sections 5 and 6 of the Supplement to this report. For example, members of the public have used their *EBR* rights to ask ministries the following questions:

Energy Audits

Energy audits can help home buyers choose a more energy-efficient dwelling. *The Green Energy Act, 2009 (GEA)* proposes to require sellers to provide information about a home's energy consumption and an energy efficiency rating at the time of sale. Should not the government act swiftly to require mandatory energy audits for single family homes at time of sale? Should not this requirement be extended to leased properties, multi-unit residential and non-residential properties? (For details, see Section 5.1.1 of the Supplement to this Annual Report).

Biomedical Waste

Companies that transport and dispose of biomedical waste must comply with a set of rules for safe handling set out by the Ministry of the Environment. However, the same rules are not mandatory for facilities that generate biomedical waste, such as hospitals and clinics. Should not the safe handling rules become a regulation, binding on generators as well as transporters of biomedical waste? (For details, see Section 5.2.2 and Section 4.4 of the Supplement to this Annual Report).

Funding for Conservation Authorities

Ontario's conservation authorities (CAs) have important roles in protecting the environment. They are key agencies in prevention and control of flooding and erosion; they rehabilitate streams and wetlands; they regulate development in floodplains and other lands near water; and they plant trees and offer outdoor education. The funding shortfall for CAs was estimated at \$14 million in 2007, and the funding that the Ministry of Natural Resources provides to CAs has not changed in over a decade. Should not the Ministry of Natural Resources review the adequacy of funding to CAs? (For details, see Section 5.4.3 of the Supplement to this Annual Report).



Part Eight
Ministries and the EBR

Ministries play a critical role in ensuring that the *Environmental Bill of Rights, 1993 (EBR)* works. Part 8 of the ECO Annual Report reviews the success (or failure) of the various ministries prescribed under the EBR in upholding their obligations under this Act.

Part 8 includes a summary of the progress made by the provincial government during the previous reporting year in prescribing additional ministries and laws under the EBR. This part of the Annual Report also includes a review of several of the prescribed ministries' Statement of Environmental Values (SEV). Each year, the ECO also reviews how co-operative the prescribed ministries were in responding to ECO requests for information. Finally, this year, the ECO also undertook a "secret shopper" project to determine how well government staff could meet requirements under the EBR to provide the public with access to basic information related to EBR proposals.

8.1 Keeping the EBR in Sync with New Laws

As regular readers of ECO annual reports know, a major challenge facing the Ontario government and the ECO is to keep the EBR "in sync" with new, environmentally significant laws, regulations, instruments and other government initiatives, including the creation of new ministries. The ECO strives to ensure that the EBR remains up-to-date and relevant to Ontario residents who want to participate in environmental decision-making. The Commissioner and his staff constantly track legal and policy developments at the prescribed ministries and in the Ontario government as a whole, and encourage ministries to update the EBR regulations to include new laws and prescribe new government initiatives that are environmentally significant.

In our 2004/2005 Annual Report, the ECO outlined some of the reasons why it is necessary to constantly update the EBR regulations and recommended that new, environmentally significant government laws and related initiatives be prescribed under the EBR within one year of implementation. We have followed up on this recommendation in our 2009/2010 Annual Report and other recent annual reports. More detail is provided in the Status Report in Section 8 of the Supplement.

There continue to be serious delays in making certain ministries, laws and instruments subject to the EBR, as summarized in Table 1. For example, the lengthy delay in prescribing Nutrient Management Plans issued under the *Nutrient Management Act, 2002 (NMA)* as instruments under O. Reg. 681/94 has deprived residents of Environmental Registry notice and comment opportunities and has frustrated the intent and spirit of the EBR. The ECO is concerned about these lengthy delays. They deprive the public of their rights to participate in environmentally significant decisions, to ensure that Statements of Environmental Values (SEVs) are considered, to file leave to appeal applications, and to request EBR investigations and reviews. Moreover, the ECO is not legally empowered to subject ministry decision-making under these non-prescribed acts to the same degree of scrutiny as would normally occur for decisions made under prescribed acts, regulations and instruments.

In the 2009/2010 reporting period, the ECO observed some formal progress in expanding EBR coverage. In June 2009, the Ministry of the Environment (MOE) posted a proposal (#010-6516) for regulatory amendments to O. Reg. 73/94 on the Environmental Registry including proposals to prescribe the *Green Energy Act, 2009* and the *Ontario Heritage Act*. These changes were implemented in September 2009. The September 2009 regulatory amendments addressed many important and necessary changes to O. Reg. 73/94. The ECO commends the ministries for completing this work.

In late January 2010, MOE posted a proposal on the Registry (#010-8535) indicating that it intended to prescribe a number of Acts including the *Food Safety and Quality Act (FSQA)* and specific instruments issued under the *Endangered Species Act, 2007*, and the *Safe Drinking Water Act, 2002* as Class I proposals for instruments under O. Reg. 681/94. In mid-May 2010, MOE filed the necessary regulatory amendments to implement the changes proposed in January 2010.

The ECO also notes that many needed updates and changes (outlined below and described in the ECO Supplement) remain unaddressed. For example, the ECO's 2005/2006 Annual Report recommended that the Ministry of Municipal Affairs and Housing (MMAH) and MOE fully prescribe the *Building Code Act, 1992 (BCA)* under the EBR for regulation-making and instrument proposal notices and applications for reviews. In March 2009, MMAH and MOE advised the ECO that MMAH has no plan to implement the ECO recommendation on prescribing the BCA. This is an unfortunate decision and it means that transparency and accountability for MMAH policy and law-making on green building materials and energy technologies will be reduced, despite the recent passage of *Green Energy and Green Economy Act, 2009*, which amended the BCA, in May 2009. The ECO urges MMAH to reconsider its approach given the growing public concern about issues such as climate change.

There have been many applications for review made by the public to make certain ministries subject to the EBR or to expand the number of EBR processes that apply to a prescribed ministry. In September 2009, the Ministries of Energy and Infrastructure and Consumer Services were prescribed for a number of facets of the EBR including reviews, investigations and posting notices about regulatory changes. Given the key role that MEI plays in formulating policies related to energy and sound public infrastructure development, this is a very positive development and will allow the public to participate in key decisions made by this ministry.

Despite the lack of progress in 2009/2010 on prescribing certain ministries, there are some positive signs that some of the current issues, such as prescribing the Ministry of Health Promotion, may be resolved in 2010/2011. More detail is provided in Section 8 of the Supplement to this Annual Report.

Table 1
Gaps in EBR Coverage
(as of June 1, 2010)

Ministries that should be prescribed under the EBR	Aboriginal Affairs Community Safety and Correctional Services Education (in progress) Health Promotion Research and Innovation
Laws that should be prescribed under the EBR	<i>Building Code Act, 1992</i> (MMAH; partially prescribed as of June 2010) <i>Drainage Act</i> (OMAFRA)

Instruments that should be prescribed under the EBR	Instruments issued under <i>Food Safety and Quality Act</i> (OMAFRA) Instruments issued under <i>Nutrient Management Act, 2002</i> (OMAFRA) Water Management Plans (MNR) Instruments under the <i>Mining Act</i> (MNDMF)
Source: See Tables 1 and 2 in Section 8 of the Supplement to this Annual Report	

For ministry comments, please see Appendix C.

8.2 Statements of Environmental Values Consideration: Some Best Practices

The SEV-Consideration Process: Two Case Studies

The *Environmental Bill of Rights, 1993* (EBR) requires each prescribed ministry to develop a Statement of Environmental Values (SEV). The SEV is a succinct expression of the principles that guide the ministry when it makes decisions that might significantly affect the environment. The ministry must consider its SEV whenever it makes an environmentally significant decision. In addition, the minister may consider the SEV when deciding to conduct a review under the EBR.

In last year's Annual Report, the ECO evaluated past and current ministry SEVs, using criteria developed from specific statements in the EBR (see the ECO's 2008/2009 Annual Report, pages 124-129). In particular, the ECO noted that the EBR requires prescribed ministries to include in their SEVs "how the purposes of the EBR are to be applied when decisions that might significantly affect the environment are made in the Ministry," and "how consideration of the purposes of the EBR should be integrated with other considerations, including social, economic and scientific considerations, that are part of decision-making in the Ministry."

These legislated requirements imply that all SEVs should include a brief high-level description of the processes and/or mechanisms through which the application of the SEV is carried out and by which its principles will be integrated. In other words, the ECO's evaluation was looking for a general description of each prescribed ministry's internal SEV-consideration process, including such mechanisms as SEV "triggers," timing commitments, and documentation procedures. The subsequent evaluation of eleven 2008 SEVs showed that, with a few notable exceptions, these types of mechanisms were not identified, creating what the ECO considers to be an "accountability gap" in many ministry SEVs.

To address this issue, the ECO approached several of the ministries whose SEVs had achieved above-average ranking in the evaluation and asked for their voluntary participation in a survey. The intent was to find and then promote examples (e.g., best practices) of the kind of internal processes and mechanisms



used by some ministries to apply their SEVs and to integrate the SEV-consideration process with other components of decision-making. The Ministry of the Environment (MOE) and the Ministry of Natural Resources (MNR) agreed to participate.

Survey Results

The ECO survey asked for information about internal mechanisms for considering the SEV. In particular, the survey looked for the six mechanisms (or ministry-specific equivalents) described in last year's Annual Report:

1. basic SEV principles;
2. lists of environmentally relevant areas, activities or functions within the ministry;
3. formal criteria or "triggers" for assessing whether or not an initiative has environmental significance;
4. SEV training;
5. the timing of the SEV-consideration process, vis-à-vis the general internal planning process; and lastly,
6. the system of documentation for the SEV consideration.

Table 1 summarizes how the two participating ministries apply their SEVs in making decisions and how they integrate this process in their normal business.

The survey results illustrate several important mechanisms currently being used by one or both of the ministries:

- Both MOE and MNR have clear and far-reaching environmental principles, which are set out in both their SEVs and in their formal SEV-consideration documents.
- Both ministries have specific forms or templates for use by staff early in the SEV-consideration process and for use in documenting the process from an early stage (see Box, SEV-Consideration Form [MOE] & Template [MNR]).
- MOE already has an SEV-specific training program for its employees, and MNR has one under development.
- Both ministries provide staff with formal sets of triggers to assist in determining environmental significance. MOE's list is quite detailed but has been developed specifically for instruments. MNR's list applies to all types of decisions and is somewhat more general in nature; however, the ministry is in the process of developing a more detailed set of triggers.
- MOE's SEV-awareness activities include giving copies of the SEV to relevant staff and encouraging them to post these documents in their cubicles for easy reference.

The above points suggest that both ministries provide good examples of how to apply the SEV and to integrate it into day-to-day ministry operations.

SEV-Consideration Form (MOE) & Template (MNR)

Both MOE and MNR have developed forms/templates that lead their staff through the SEV-consideration process.

MOE's forms (one for instruments, one for all other decisions) include the SEV principles organized by category, such as "environmental management" and "pollution reduction." It also includes a category intended to promote integration with other considerations, such as social and economic.

MNR's template is also organized around its SEV principles. It provides concrete examples for each principle, so that users can see how it should be applied. It also provides space for describing consultation opportunities and "other considerations."

ECO Comment

The ECO commends MOE and MNR for both their willingness to participate in the survey and the progress they have made in developing strong SEV-consideration mechanisms and processes. In particular, MOE's SEV Consideration Form and MNR's SEV-Consideration Template are important tools worthy of emulation by other ministries. The ECO thanks the ministries for their co-operation in the SEV survey project and encourages them to make the mechanisms and other elements of their SEV processes available to other prescribed ministries, via the Environmental Bill of Rights Office (EBRO). The ECO encourages all other prescribed ministries to consider adapting these models in developing their own strong SEVs and SEV-consideration processes.

Table 1
SEV-Consideration Mechanisms and Processes
(Reported by MOE and MNR)

Mechanism	MOE	MNR
Principles These are expressions of the core environmental values espoused by the ministry.	MOE's principles are stated clearly in its SEV and on its SEV-Consideration Form. The latter is the working document for the SEV-consideration process.	MNR's principles are stated clearly in its SEV and are listed, with examples, on its SEV-Consideration Template, the working document for the SEV-consideration process.
Areas/activities/ functions list The purpose of this list is to increase awareness by staff that certain aspects of the ministry's mandate are more likely to have environmental implications.	Because of its mandate, almost all of MOE's activities are applicable; therefore, the key message to staff is: "if in doubt, fill it out"	None, except for a list of EBR-classified instruments. However, MNR has an EBR Reference Guide for use by staff and in that document the ministry states: "As a general rule, all proposals for policies, acts, and regulations should be considered to be environmentally significant unless the originator of the proposal can demonstrate otherwise."

Trigger mechanism These are formal criteria for assessing whether or not a particular initiative has environmental implications. Its purpose is to assist staff in making this identification early in the planning process.	The ministry has developed a list of triggers for its Certificate of Approval (C of A) applications. These are organized under the following categories: geographic (e.g., specific airsheds or watersheds); technology / contaminant / receptor (e.g., renewable energy projects, waste management / disposal technologies); and public interest, media, legal, and environmental assessment (EA) triggers (e.g., public opposition, high media coverage, etc.)	Currently, environmental-significance assessments are linked to the Registry requirements set out in the EBR Reference Guide. These include criteria such as: extent and nature of measures that might be required to mitigate impacts; geographic extent (area covered); and the nature of public and private interests. New guidelines to assist staff in this area are currently under development.
Training Staff training develops the ministry's capacity to both identify environmental significance and to integrate the SEV principles into the planning process.	EBR training is regular and on-going and includes information on the SEV; more recently, the ministry has developed a specific workshop on how SEV principles should be applied as staff undertakes ministry business. Over the past year, 500 staff members have received EBR training and over 200 have received the new specific SEV-consideration training.	MNR uses a combination of self-guided training, face-to-face training, and as-needed advice provided by the EBR experts in its Environmental Planning Team. Recently (2009), MNR launched a SEV Implementation (SEVI) initiative. The goal is to develop enhanced guidance for staff and to ensure consistent consideration of the SEV principles in practice. These new materials are expected to be complete and ready for internal consultation in 2010.
Timing A commitment to begin the SEV-consideration process early in the planning stage.	Staff members are instructed to consider the SEV during the initial planning stages of their work.	The proposed new SEV guidelines will do so specifically. In general, the advice to staff has been to start the SEV consideration process early.
Documentation A commitment to document the SEV-consideration process in "real time," as opposed to writing it up after the decision is made.	The SEV Consideration Form is to be completed prior to the EBR posting of a proposal, then amended as required at the decision stage.	The SEV Consideration Template is to be used from the beginning of the planning process. This document is usually signed by the delegated authority at the same time as the decision is made and included in the project file.
SEV awareness methods	Managers and Directors identify staff who should receive the on-going training. The SEV is available to all employees and the public on-line through the Environmental Registry website; in addition, staff who receive the specific SEV training are given a copy of the SEV and asked to post it in their cubicles as a quick reference.	MNR uses an e-mail distribution list and periodic conference calls to update the Planning Staff. The new SEVI initiative will provide updated materials that will be available to staff via the MNR Intranet site.

For ministry comments, please see Appendix C.

8.3 No Longer in Service: Spot-checks on Ministry Service to the Public

Instruments are legal documents that Ontario ministries issue to companies and individuals that grant them permission to engage in activities that may have an adverse effect on the environment. Such activities include discharging pollutants into the air, taking large quantities of water, or mining for aggregates. Licences, orders, permits and Certificates of Approval are all considered instruments.

The *Environmental Bill of Rights, 1993 (EBR)* provides Ontarians with the right to review instrument applications. As well, the public can submit comments on the conditions that a ministry is proposing to attach to an instrument to protect the environment. In order for members of the public to comment effectively, however, they must have access to the relevant information. That is why the *EBR* requires ministries to post instrument proposal notices on the Environmental Registry for public review. These notices must include a brief description of the proposal, as well as how and where members of the public may review written information about the proposal.

The majority of instruments are Class 1 proposals and are typically posted on the Registry for the required 30-day comment period. (In some instances, this may be extended to allow for enhanced public participation.) This is a relatively short time frame, and so it is imperative that the public has timely access to any supporting information. What this means is that ministry staff must be able to readily access the information and make it available for viewing once a request has been made by the public. Such requests may either be made in person or over the telephone, and ministry staff must be in a position to respond to either approach.

The ECO's Research

As a follow-up to similar projects that we reported on in our 1994/1995 and 2001/2002 Annual Reports, the ECO wanted to determine how well staff at two ministries and one agency could provide information about proposal notices posted on the Registry. Similar to previous years, the goal was to compare each ministry's performance against the requirements of the *EBR* and basic government-established principles regarding access to information.

To conduct the project, the ECO again retained the services of an environmental researcher who visited offices of the Ministry of the Environment (MOE), the Ministry of Natural Resources (MNR) and the Technical Standards and Safety Authority (TSSA). Visits were made to several of these offices in different regions of the province in order to obtain a broad geographic sampling.

MOE was selected for several reasons. First, in 2001/2002 we reported several problems that had been encountered during visits to MOE offices and made two recommendations as a result. The first recommendation was that MOE uphold the public's right to view non-proprietary information, free of charge and without unnecessary delay. The second was that MOE clarify its procedures and educate its staff as to the public's legal rights pursuant to the *EBR* and the *Freedom of Information and Protection of Privacy Act (FIPPA)*. We were interested, therefore, to determine whether there had been any improvements in these two areas.

The MOE sample included proposals to issue air-related permits and permits to take water. These instruments are posted frequently on the Registry and are often higher profile in terms of public interest.

MNR was selected again this year given its responsibility for regulating aggregate operators. Similar to the situation in 2001/2002, aggregate operations continue to generate local controversies and constitute a high number of the public inquiries that are made to the ECO office. The MNR sample again focused on licences for pit and quarry and other aggregate operations.

Finally, the TSSA was selected due to its responsibility for monitoring the transportation, storage and handling of hydrocarbon fuels such as gasoline, diesel, propane and natural gas. Given that the improper storage and handling of fuel can have environmental impacts, various permissions granted under the Liquid Fuels Handling Code and O. Reg. 217/01 must be posted on the Registry for public comment.

ECO Findings

Ministry of the Environment

MOE offices throughout Ontario are listed as points of public contact for air and water-related instrument proposal notices posted on the Registry. Our researcher visited seven offices across the province that were listed as contact points in instrument proposal notices.

At most offices, MOE staff knew that the instrument proposal file was located within their offices, but in two instances staff did not know how to easily access the file. It appeared to our researcher that the inability to readily access the file was due to the lack of a centralized location within the office for all instrument applications and so a considerable amount of time was spent by MOE staff attempting to locate all the relevant information. Once these files were located, however, our researcher had access to the complete files even though one was missing relevant information.

At two locations, our researcher was informed that the files were not physically present in the MOE office, but rather are sent electronically through an internal government system. In one instance, our researcher asked how the public might view the files and was told that they would have to go to the Approvals Branch.

At two of the five locations where the files were found, our researcher was unable to independently review the file, but was supervised by a staff person while doing so.

At one office visited in connection with an air discharge proposal, only the application was made available to our researcher. In order to obtain any of the supporting information, our researcher was advised to either file a formal application under the *FIPPA* or to contact the applicant's consultant. The staff assisting our researcher indicated that they had been reprimanded in the past for providing comparable information. Accordingly, this lack of information made it impossible for our researcher to ask even the most basic questions about the application.

At two of the locations visited, no difficulties were encountered either in requesting or viewing the files. MOE staff at these two locations were both knowledgeable about the EBR process and very accommodating.

Ministry of Natural Resources

MNR offices throughout the province are listed as points of public contact for aggregate-related instrument proposal notices posted on the Registry. Some of these proposals were for licences to extract aggregate, while others were to amend existing site plans. Our researcher visited four MNR offices.

In our 2001/2002 Annual Report, our overall impression of MNR staff knowledge and procedures relating to EBR instrument proposals was generally satisfactory. Our experience this year, however, was less satisfactory.

The instrument proposal file was made available for viewing at only one of the four offices visited. At this location, the responsible staff person was relatively new to the position and therefore consulted with senior staff to determine what access our researcher could have to the file. Nevertheless, once this was clarified, the staff person was extremely accommodating.

At one visit, the two staff people had no idea where the proposal file was located or even that such a file existed. The individual responsible for the file was not available and the other staff appeared not to have any knowledge of that staff person's responsibilities as far as the Registry is concerned. MNR staff took our researcher's contact information and advised the researcher that they would be contacted within three business days. Our researcher was subsequently contacted within this time frame.

At another visit, the staff person responsible for the file was unavailable. Another staff person attempted to locate the file, to no avail. Not only did the staff person suggest that our researcher would need to file a *FIPPA* request for the desired information, they also appeared somewhat indignant that our researcher would ask for information or question anything for which the office was responsible. The staff person took our researcher's contact information and indicated that they would be contacted, but this never occurred.

During this year's visits, security issues associated with MNR offices made it increasingly difficult to access the relevant documentation. At several locations, reception areas no longer exist and access to MNR offices is restricted. In one case, our researcher attempted to use a telephone in the lobby to contact the MNR offices located within the building. Despite the fact that the telephone numbers used were those listed on the EBR posting, our researcher received an "out-of-service" response when trying to use the available telephone. In another case, clerical staff were reluctant to grant our researcher access to the building as the staff person responsible for the file was not available. In two cases where access was ultimately granted, our researcher was asked about their interest in viewing the file and was requested to provide identification in order to receive the file.

Technical Standards and Safety Authority

Our researcher visited the TSSA to view a proposal relating to a single-walled underground storage tank at a gasoline service station. Under Section 2.1.1.1 of the Liquid Fuels Handling Code, all underground storage tanks are to be double-walled. In order to allow the re-use of a previously installed single-walled tank, application for a variance from this section must be made.

Although the TSSA staff knew that the proposal was in their office, the contact person listed on the Registry was not the person responsible for the file, nor were they fully aware of which staff member

had responsibility for it. In fact they indicated to our researcher that this was the first time that they were aware of that anyone had ever asked to view a proposal. After several minutes, someone who could speak about the application was located and, although the complete file was made available for viewing, a request to copy the application was denied as staff were unsure as to whether doing so was permissible. Staff indicated that they would consult with their manager and that our researcher would be contacted regarding file availability. The comment period ended and our researcher was never contacted about the proposal.

Observations

The ECO is concerned that there is still some uncertainty within ministries regarding the public's legal rights to access and comment on instrument proposals posted on the Environmental Registry. Questions still exist among ministry staff as to what documentation can be provided and to whom. The ECO wonders whether inconsistent *EBR* training led to the situation this year where the public's legal right to access information was twice obstructed by suggestions that *FIPPA* requests must be filed to obtain any supporting documentation. While some aspects of certain applications are properly classified as confidential under *FIPPA* (such as commercially sensitive material), it is the ECO's opinion that general descriptions of the proposed undertaking are properly within the public realm and should therefore be accessible through the *EBR* process. While staff turnover and the steep learning curve that is associated with ministry work likely provide a partial explanation for this lack of clarity, it is unfortunate that it may result in the public encountering a range of responses when requesting access to instrument proposals. For those Ontario residents living in the northern part of the province, where distances to ministry offices are greater, it is unacceptable for a member of the public to be advised that they will have to attend another office, such as the Approvals Branch located in Toronto, to view a file.



Photo: Stacey O'Malley

With regard to TSSA in particular, the ECO recognizes that there are not a large number of TSSA proposals posted on the Registry. In fact, over a 12-month period ending April 2010, there have only been 29 proposals posted on the Registry for public comment and, it would seem that there has been few, if any other, requests to view proposals filed with the TSSA. Nevertheless, the public does have the right to view such information and the TSSA has been subject to the *EBR* since 1997, so there has been ample time to provide reasonable training to staff.

A second observation is that, in some cases, there does not appear to be an on-site centralized system within ministry offices for storing and accessing files. On several occasions, our researcher was prevented from reviewing files because they simply could not be located. The ECO, therefore, encourages ministry offices handling *EBR* proposals to assess the processes that they have in place for storing and accessing the files. In order to quickly and efficiently access the requested information, a system for locating and tracking files must be created and kept up to date for *EBR* proposals so that staff unfamiliar with the files can find them easily and determine quickly which staff member is the key contact for public inquiries. Given that much information is now in electronic format, the ECO suggests that the ministries might explore electronic possibilities to better organize and access information.

Finally, the ECO is dismayed that many ministry offices, particularly those of MNR, no longer have reception areas to receive public inquiries, but rather are locked and inaccessible. Unless a member of the public makes an appointment to visit a particular staff person, it is almost impossible to gain access to the office in order to view a Registry proposal. While the Registry indicates that the public can contact the relevant offices in order to "arrange a viewing" of the relevant documents, it is not apparent that unless one does so, they will be precluded from entry. The ECO recognizes that MNR instrument proposals on the Registry recommend that the public should make an appointment to view the information "to ensure aggregate staff will be available to provide information and answer questions." Perhaps a clearer message to the public is required, if only to ensure access to the building.

The preamble section of the *EBR* states that the people of Ontario should have the means to ensure that the protection of the natural environment is done in an "effective, timely, open and fair manner." The Environmental Registry is a key mechanism that was established to facilitate broad participation and through which the public can gain access to relevant information. Through this project, the ECO is led to conclude that the public's access to information may not meet the threshold envisioned within the preamble of the *EBR*. A general lack of clarity seems to exist as to what information the public may be provided, and by whom within each ministry office. Finally, the inability of the public to even access ministry offices may lead to the unfortunate impression that many are simply "no longer in service."

For ministry comments, please see Appendix C.

8.4 Ministry Co-operation with the ECO

The Environmental Commissioner of Ontario (ECO) and his staff rely upon co-operation from staff in Ontario's provincial ministries to carry out the mandate of the ECO. Our staff members are in constant contact with staff from the prescribed ministries with requests for information. Clear, prompt responses allow the ECO's reviews of the ministries' environmentally significant decisions to be conducted in an efficient and straightforward manner. Section 58 of the *Environmental Bill of Rights*, 1993 requires the ECO to include in our Annual Report a statement on whether or not prescribed ministries have co-operated with requests by the ECO for information.

Staff members at the prescribed ministries are generally co-operative in providing information when it is requested. The prescribed ministries and one agency (the Technical Standards and Safety Authority) each have one staff person who is designated an *EBR* co-ordinator or contact. Most of the day-to-day interaction between the ECO and the ministries occurs via these co-ordinators, which are very important positions with respect to effective *EBR* implementation. As in past years, the ECO urges prescribed ministries to notify our office immediately of any changes in the *EBR* co-ordinator/contact position to ensure optimum communication and co-operation between the ECO and the ministries. The ECO also directly contacts ministry staff responsible for program delivery with specific, detailed information requests related to ministry programs.

Co-operation by the Ministry of the Environment

The ECO makes regular requests for information to the Ministry of the Environment's Environmental Bill of Rights Office (EBRO) through its managers, which saves time for staff at both ends. In 2009/2010, the EBRO staff have been co-operative in nearly all cases, and responses to ECO requests were helpful.

thorough and informative. MOE staff were particularly helpful in providing updates on several ECO research projects on wastewater, small landfill management and composting. In 2010, the ECO wrote MOE and asked for updates on a handful of ongoing EBR application reviews, including one on the Moscow landfill and another related to a groundwater contamination problem near Cambridge. In the latter case, MOE staff quickly provided very useful background and briefing materials for ECO staff.

Last year, the ECO reported a marked deterioration in MOE's ability to forward routine documents needed by the ECO for decision reviews, including SEV consideration notes and written public comments. In this reporting year, the ECO is pleased to report that MOE made significant efforts to improve its response times and co-operation with the ECO on this project.

Co-operation by the Ministry of Natural Resources

As in previous years, the EBR co-ordinator for the Ministry of Natural Resources (MNR) was very helpful to ECO staff. However, while MNR staff made useful presentations on several occasions throughout this reporting year and did provide ECO staff with supplemental information in addition to that which was requested in some cases, MNR's overall co-operation deteriorated markedly in this reporting year. Numerous ECO requests remain unanswered. For example, the Commissioner requested financial information relating to MNR's species at risk program in October 2009 and still had not received the relevant information by June 2010. This unresponsiveness by MNR is unacceptable and thwarts the Commissioner's responsibilities in reporting to the Ontario Legislature.

The ECO also contacts front-line staff at MNR and other ministries directly with specific requests for information. Individual MNR staff members and most staff in other ministries were generally co-operative in supplying the information requested in a reasonable response time.



Co-operation by the Ministry of Municipal Affairs and Housing

The Ministry of Municipal Affairs and Housing responded promptly to most requests in the reporting period. However, in at least one case, the timeline for responding to an information request exceeded seven months, which undermines the ability of the Commissioner to carry out his duties.

Co-operation by the Ministry of Northern Development, Mines and Forestry

In previous years the ECO has reported that the Ministry of Northern Development, Mines and Forestry (MNDMF) was unresponsive to the ECO's requests for information, or very slow in responding. In this reporting year, the ECO is disappointed to report that past problems and delays re-surfaced. In several cases, the timeline for responding to information requests exceeded three months, and, in one case, an intervention by the Commissioner himself was necessary to secure routine information.

Responses to ECO's Unposted Decision Project

Under the rubric of our unposted decision identification process (see Part 9.2 of this Annual Report), the ECO sends formal written inquiries requesting that ministries post notices on the Environmental Registry about policies, bills, regulations and instruments and/or requesting information on how the ministry determined the environmental significance of a proposal and whether it considered its SEV. The letter may also ask the ministry to provide information on any other related public consultation activities undertaken by the ministry. Most of the ministries co-operated with these inquiries and, in some cases, agreed with ECO proposals to promptly post Registry proposal notices about policies and bills before the Legislature. However, there were some examples where ministries failed to co-operate with the ECO and decided against undertaking actions to support compliance with the EBR's notice and comment process. For example, the Ministry of Consumer Services (MCS) decided not to address Registry notice compliance issues raised by the ECO in the summer and fall of 2009. (These were related respectively to a new MCS policy on spreading ashes on Crown lands, and legislation amending the statute establishing the TSSA.)

For further information, see the Unposted Decisions in Section 1 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.



Part Nine
The Environmental Registry

9.1 Quality of Posting Information

The Environmental Registry is only as good as the information it contains. *The Environmental Bill of Rights, 1993 (EBR)* sets out basic information requirements for notices that ministries post on the Environmental Registry. The ministries also have discretion about whether to include additional information. Previous annual reports of the Environmental Commissioner of Ontario (ECO) have recommended that in posting information on the Environmental Registry, ministries should use plain language and provide a clear explanation of the purpose of the proposed decision and the context in which it is being considered. Ministries should clearly state how the decision differs from the proposal, if at all, and explain how all comments received were taken into account. All notices should provide a ministry contact name, telephone and fax number, as well as hypertext links to supporting information whenever possible.

The ECO evaluates whether ministries have complied with their obligations under the *EBR* and exercised their discretion appropriately in posting information on the Environmental Registry. This ensures that ministries are held accountable for the quality of the information provided in Environmental Registry notices.

Comment Periods

The *EBR* requires that ministries provide the public with at least 30 days to submit comments on proposals for environmentally significant decisions. Ministries have the discretion to provide longer comment periods, depending on the complexity and level of public interest in the proposal.

The ECO tracks the number of proposal notices that have public comment periods of 45 days or longer. This tracking is one method to broadly examine whether prescribed ministries are exceeding the minimum consultation requirements found in the *EBR*. This tracking also serves to indicate which ministries are making good use of the Environmental Registry through the number of postings that they use for their different initiatives. In the 2009/2010 reporting period, approximately three-quarters of the proposal notices for policies, acts and regulations were posted for public comment on the Environmental Registry for 45 days or longer.

Proposal Notices for Policies, Acts, and Regulations posted on the Environmental Registry for 45 days or Longer (April 1, 2009 – March 31, 2010)

Ministry	Number of proposal notices	Proposals with a 45-day or longer comment period	
		Number	Percentage
Agriculture, Food, and Rural Affairs	2	1	50%
Culture	2	2	100%
Economic Development	0	0	n.a.
Energy and Infrastructure	4	4	100%
Environment	41	28	68%
Government Services	1	1	100%

Health and Long-Term Care	1	0	0%
Labour	0	0	n.a.
Municipal Affairs and Housing	3	2	67%
Natural Resources	31	25	81%
Northern Development, Mines and Forestry	3	3	100%
Tourism	0	0	n.a.
Transportation	2	1	50%
Total	90	67	74%

Adequate Time to Comment on Acts

It is important that prescribed ministries use the Environmental Registry to thoroughly engage the public when they propose new legislation. As the development of the legislation progresses, each of the evolving proposals must be posted with appropriate comment periods; this should allow sufficient opportunity for members of the public to understand the rationale of the legislation and participate in its formulation. The timing of the posting is also important.

Toxics Reduction Act, 2009

On August 27, 2008, the Ministry of the Environment (MOE) posted a Toxics Reduction Strategy Discussion Paper, which set out the framework for a new toxics reduction statute, on the Environmental Registry for 45 days. MOE also held several stakeholder consultation sessions, as well as information sessions with Aboriginal communities.

On April 7, 2009, less than eight months after this first proposal had been posted, MOE posted a second proposal notice on the Environmental Registry for the proposed new *Toxics Reduction Act, 2009* (Bill 167), with a 30-day comment period.

The development of this important piece of environmental legislation accelerated even more during the formal legislative stage. On April 27, 2009, less than three weeks after the proposal was posted on the Environmental Registry, the bill was given Second Reading in the House. On May 5, 2009, two days before the comment period on the Environmental Registry ended, the bill was referred to the Standing Committee on General Government. By June 5, 2009 – less than two months after the proposed bill was first introduced – the *Toxics Reduction Act, 2009* had been discussed at committee, received Third Reading, and been passed by the Legislative Assembly. The Act came into force on January 1, 2010. Given the expeditious way the bill moved through the House before the public comment period had even closed, it is unclear whether the ministry gave due consideration to the 113 comments received during the 30-day consultation period on the Act.



While the ECO appreciates the desire for quick action, this objective must be balanced with the need to provide adequate time for public comment, proper deliberation of the comments, and careful drafting of legislation and regulations. Many industry stakeholders complained about the short duration of the consultation periods and expressed their discontent that MOE did not, in their opinion, duly consider their input. In this case, rushed consultations and quick drafting appear to have caused unnecessary stakeholder anxiety. Better consultation could have helped achieve greater stakeholder buy-in, as well as facilitated the identification and resolution of controversial issues at earlier stages. (This issue is addressed in more detail in Part 4.2 of this Annual Report.)

The Mining Amendment Act, 2009

On May 5, 2009, the Ministry of Northern Development, Mines and Forestry (MNDMF) posted its proposed legislation, the *Mining Amendment Act, 2009* (Bill 173), on the Environmental Registry for public review and comment. The proposal had been preceded by a policy proposal posted on August 11, 2008, seeking public comment on a discussion paper, titled *Modernizing Ontario's Mining Act – Finding a Balance*, and a proposal notice posted on July 18, 2007, inviting public comments on developing a framework for revising requirements for mineral exploration on private surface rights. Each of these proposal notices provided comment periods of 60 to 65 days. The ECO is pleased that MNDMF posted three proposal notices as part of the process to modernize the *Mining Act*. (This issue is addressed in more detail in Part 5 of this Annual Report.)

Description of Proposals

Ministries are required to provide a brief description of each proposal posted on the Environmental Registry. The description should clearly explain the nature of the proposed action, the geographical location(s), and the potential impacts on the environment. During this reporting period, descriptions of proposals for policies, acts and regulations generally met the basic requirements of the EBR. The proposal notices provided concise and understandable explanations of the actions the ministries were proposing.

Access to Supporting Information

The majority of proposals for policies, acts, and regulations posted on the Environmental Registry in 2009/2010 provided access to supporting information by listing a contact person, phone number and address. Prescribed ministries appear to be making much better use "hypertext" links, which are an excellent aid to the public.

Environmental Impacts

The ECO has expressed concern in many previous annual reports that ministries are not adequately explaining the environmental impacts of their proposals. Although the EBR does not legally require ministries to include this information, it provides the public with the background necessary to make informed comments on proposals.

Description of the Decision

Once a ministry has made a decision on a proposal posted on the Environmental Registry, the *EBR* requires the minister to provide notice of the decision as soon as possible. The description of the decision in a notice lets residents of Ontario know the outcome of the public consultation process. Decision notices that highlight the changes that have been made since the initial proposal was posted are helpful to the public. (Also see Part 9.2, Reviews of Unposted Decisions, and Part 9.5, Late Decision Notices and Undecided Proposals, in this Annual Report.)

Explaining How Public Comments were Addressed

The *EBR* requires the prescribed ministries to explain how public comments were taken into account in making a decision. Ministries should take the time and effort to summarize the comments, state whether the ministry made any changes as a result of each comment or group of related comments, and explain why or why not. Without this description, commenters will not know whether their comments were considered. In situations where there are a large number of comments, ministries should make an effort to summarize them appropriately and describe their effect on the decision.

Summary

The Environmental Registry usually provides the first point of contact for Ontario residents who want to participate in environmental decision-making. The Environmental Registry should be as user-friendly as possible. The recommendations contained in this and previous annual reports are intended to improve the quality of information on the Environmental Registry and to ensure that the public is able to participate fully in Ontario's environmental decision-making process.

For ministry comments, please see Appendix C.

9.1.1 Every Comment Counts

This year, nine species at risk became the first to receive regulated habitat protection in Ontario (see Part 3.4 of this Annual Report). Habitat loss is the primary threat to species in the province, and protecting habitat is essential – but often controversial.

The ECO is troubled by the manner in which MNR reported the number of comments received from the public about its proposal to regulate habitat for nine species at risk (Registry #010-6490). MNR reported in the comments section of its decision notice that it received 425 comments on the proposal (321 online and 104 in writing). However, MNR acknowledged later in the notice that it also received 165 form letters and 641 postcards from the public – bringing the total number of comments to 1,231. Further, MNR stated that, "excluding form letters, approximately an equal mix of supportive and non-supportive comments was received."

The ECO questions why every comment received from the public (whether in the form of original letter, electronic comment, postcard, etc.) was not included in MNR's tally of the comments submitted, and why MNR would exclude comments received in particular formats from its evaluation

of the public's response to the proposal. Every Ontarian has a right under the *EBR* to comment on a proposal notice, and every comment received represents an expression of an Ontarian's views about the proposal. In this case, each member of the public who sent in a form letter or postcard expected that their right to participate in this decision would be acknowledged and respected.

This approach is not consistent with MNR's past practice of providing the true total number of comments received, and noting the number of those comments that were received as form letters, petitions, postcards, etc. MNR's usual approach is more appropriate and transparent. A significant number of form letters or petitions normally indicate a heightened degree of public interest, which should be acknowledged.

It is not clear from the decision notice whether MNR considered the form letters and postcards that it received when making its final decision on this regulation, as it is required to do under the *EBR*. The ECO notes that while MNR should count every comment received as a separate comment, a comment does not represent a "vote" that determines the outcome of the proposal. It is reasonable that the substantive content of identical form letters or postcards be considered together as one; however, the fact that a substantial number of comments expressing the same position or concerns was received should also be given weight in the ministry's decision-making process.

The ECO urges MNR to acknowledge and consider every comment received in response to a notice on the Environmental Registry, as each comment represents the exercise by a separate Ontarian of his or her right to participate in government environmental decision-making under the *EBR*.

9.2 Reviews of Unposted Decisions

Under the *Environmental Bill of Rights, 1993 (EBR)*, prescribed ministries are required to post notices on the Environmental Registry to inform the public of environmentally significant proposals and to solicit public comment. Sometimes ministries fail to meet this legal obligation, and the ECO must make inquiries and report to the public on whether their *EBR* public participation rights have been violated.

During the 2009/2010 reporting period, four ministries had instances of non-compliance with the *EBR* notice and comment requirements, including the Ministry of the Environment (MOE), the Ministry of Natural Resources (MNR), the Ministry of Municipal Affairs and Housing (MMAH), and the Ministry of Consumer Services (MCS). For a detailed description of all the unposted proposals and decisions reviewed by the ECO this year, refer to Section 1 of the Supplement to this Annual Report.

The ECO was pleased this year with the prompt responses provided in most cases by the ministries when queried regarding potential unposted items. Although the ECO did not always agree with the cases made by the ministries, the timing of the responses and the level of consideration provided by the ministries in addressing our concerns was heartening.

On the other hand, the reasons for not posting provided by ministries were not always convincing. In particular, the ECO remains concerned that many environmentally significant decisions are still being made in Ontario with little or no public transparency or opportunity to comment. This is happening because ministries are sometimes:

- defining plans as "implementation" rather than policy;
- describing guidelines and manuals as "educational" rather than policy documents; or
- burying small but often environmentally significant decisions inside larger, more administrative policies, regulations or acts.

For example, the ECO is disappointed with the slow steps that the Ministry of Natural Resources took to allow public consultation on its Identification and Confirmation Procedure for Areas of Natural and Scientific Interest (ANSIs). This policy was originally posted in July 2008 as an Information Notice without the required public consultation. After several letters from the ECO and meetings to discuss the issue, MNR declared its intention in May 2009 to post a regular policy proposal on the Environmental Registry as required by the EBR. Finally, the ministry posted a proposal notice with a 45-day public consultation period in June 2010. Such obfuscation by MNR is unnecessary and does not serve the public well.

The cases that follow are from this reporting year and illustrate what the ECO considers to be further examples of some of the general non-posting problems described above.

Classifying *Pesticide Act* Instruments under the *EBR*

On April 22, 2009, the Ministry of the Environment (MOE) filed O. Reg. 166/09, revoking the previous *Pesticides Act* instrument classifications of O. Reg. 681/94 under the *EBR* and replacing them with new instrument classifications based on O. Reg. 63/09, the newer general regulation under the *Pesticides Act*. However, the amendment of O. Reg. 681/94 included a new instrument: a proposal by MNR to enter into an agreement with a body responsible for managing a natural resources management project, if that project involves the use of a prescribed pesticide.

This instrument had not been part of the consultation on O. Reg. 63/09. Therefore, the ECO contacted the ministry and asked why the regulation (O. Reg. 166/09) was not posted on the Environmental Registry for public comment. On June 30, 2009, the ministry replied that the amendments were made primarily to update references in O. Reg. 166/09 to Regulation 914 by replacing them with references to the new O. Reg. 63/09 and were not thought to cause a significant environmental impact.

The ECO believes that this regulation should have been posted. A new instrument was included in the revisions and the public did not have a chance to comment. The fact that all of the other amendments were largely administrative in nature should not be used as a rationale for creating a new instrument without a Registry posting.



Water Supply Wells – Requirements and Best Management Practices Manual

In March, 2009, MOE indicated that it was developing two Best Practices Manuals (BPMs) to help implement amendments to Regulation 903, the Wells regulation, made under the *Ontario Water Resources Act*. These manuals were for water supply wells and for test holes and dewatering wells (see ECO's 2008/2009 Annual Report, page 133). MOE also indicated that these documents would be posted on the Environmental Registry as information notices.

On May 12, 2009, the ECO wrote to MOE urging the ministry to post the BPMs as regular proposal notices, to provide for full public notice and comment, as required by the *EBR*. The ECO pointed out that the manuals would clearly be environmentally significant policy documents.

On May 26, 2009, the Ministry of the Environment responded to the ECO's urge-to-post letter. In this correspondence, the ministry stated that the intent of the manuals is essentially to explain the Wells Regulation, provide best practices, and offer clarification to the industry and other stakeholders with respect to the many questions the ministry had received on the Wells Regulation. As such, the ministry had decided that the manual was not a program, plan, objective, guideline, or set of criteria for decision-making and, thus, did not need to be posted on the Registry. The ministry's letter further stated that an external stakeholder committee had been set up for the purpose of reviewing and providing comment on the draft manuals and that, as part of this process, the Ontario Groundwater Association (OGWA) had posted the draft manual on its website, making it publicly available. Finally, the ministry's letter stated that all comments and recommendations from the stakeholder groups had been consolidated into the final version of the manuals.

On January 21, 2010, MOE posted Water Supply Wells – Requirements and Best Management Practices Manual as an information notice.

The ECO disagrees with the ministry's decision to post these documents as information notices and is extremely disappointed that the ministry has done so with at least one manual to date.

MOE's argument for not posting appears to the ECO to be somewhat contradictory. If the BPMs are not new policy, but only expansion and clarification of existing policy, it begs the question as to why so much external input was required. If many comments and recommendations from external sources were incorporated, as indicated by MOE, it would seem to suggest that new elements of policy have in fact been adopted. If new policy elements are included within the BPMs, it follows that these documents should be posted as regular proposal notices on the Environmental Registry. By not doing so, the ministry has denied the right of the general public to comment on significant environmental policy in the proposal stage via the Registry.

Deadline for Phase-out of Certain Activities in Some Provincial Parks

On November 2, 2009, MNR posted on the Registry a notice (#010-8203) proposing changes to the Ontario Parks Phase-Out Policy. This proposal proposes a lifetime extension for those private tenure and commercial harvesting permits and licences in select provincial parks (set to have expired in 2009). The ECO is concerned that the ministry had already made a *de facto* environmentally

significant decision within this proposal notice, without the benefit of public consultation. The proposal notice states that "until this review is complete and decisions are made, the affected activities will not be phased out as originally scheduled by December 31, 2009." It had been MNR policy since 1989 to phase out all forms of existing tenure issued by the Crown for private use in provincial parks by no later than January 1, 2010.

On January 7, 2010, the ECO wrote MNR to express strong concern regarding both the policy's proposed lifetime extensions and the means by which the phase-out had been dropped without the benefit of a specific *EBR* posting.

On March 1, 2010, MNR's response to the ECO letter stated that the policy proposal on the Registry included the opportunity to comment on the proposed change of the phase-out policy (to lifetime extensions) and, therefore, the purposes of the *EBR* had been served.

The ministry acknowledged that it would have been ideal to have posted the proposal earlier, so that a decision could be made prior to the scheduled phase-out date, but that the complexity of the proposed policy had required additional time, delaying the review. The ministry also acknowledged that the delay had resulted in the continuation of the current activities, but argued that these activities had been on-going since at least 1989 and that allowing them to continue until a decision was reached could not be considered environmentally significant.

The ECO strongly disagrees with MNR's decision not to post the extension of the phase-out deadline as a separate proposal on the Registry. In our 2006/2007 Annual Report, the ECO stated that "Due to political pressure, governments of the day have routinely renewed these leases, despite a clear commitment in MNR policy that cottages within protected areas are inappropriate." The current decision to extend such long-held deadlines without appropriate and timely consultation certainly gives the impression that a similar story has occurred once again. The ECO also disagrees with the proposed lifetime extensions of existing leases, for the same reasons.

For ministry comments, please see Appendix C.

9.3 Use of Information Notices

In cases where provincial ministries are not required to post a proposal notice on the Environmental Registry for public comment, they may still provide a public service by posting an "information notice" under section 6 of the *Environmental Bill of Rights, 1993 (EBR)*. These notices keep Ontarians informed of important environmental developments.

Ministries should use an information notice only when they are not required to post a regular notice for public comment (under sections 15, 16 or 22 of the *EBR*). Significant differences exist between regular proposal notices posted on the Environmental Registry and information notices. With regular proposal notices, a ministry is required to consider public comments and post a decision notice explaining the effect of comments on the ministry's decision. The ECO then reviews the extent to which the minister considered those comments when he or she made the final decision. Ministries must also consider their Statement of Environmental Values in the decision-making process. Moreover, third-party appeal rights are only available for instruments if they are posted as regular proposal notices. Overall, regular proposal postings provide greater public accountability and transparency than information notices.

The ECO reviews whether or not ministries use information notices appropriately and considers whether notices are clear and complete. During the 2009/2010 reporting year, six ministries posted a total of 122 information notices. However, for the purposes of reporting on year-to-year trends, the ECO does not include previously posted notices (as ministries often post updates on information notices) or notices that relate to forest management plans. In 2009/2010, ministries updated 21 previously posted notices and 7 new notices relating to forest management plans. Accordingly, for ECO's reporting purposes, the ministries posted 94 new information notices in 2009/2010. Please refer to Section 2 in the Supplement to this Annual Report for a discussion of the appropriate use of information notices and for a complete list of information notices posted on the Environmental Registry in 2009/2010.

Number of New Information Notice Postings, 2009/2010

Ministry	Postings
Energy and Infrastructure (MEI)	2
Environment (MOE)	45
Municipal Affairs and Housing (MMAH)	7
Natural Resources (MNR)	30
Northern Development, Mines and Forestry (MNDMF)	7
Transportation (MTO)	3

Appropriate Use of Information Notices

During this reporting period, several ministries used information notices to inform the public about initiatives that are legally excepted from the EBR requirement to post regular proposal and decision notices. For example, MOE posted a notice informing the public about Health Canada's consultation on the Canadian Drinking Water Guidelines. MTO made good use of an information notice to inform the public it is initiating an update of the Transit-Supportive Land Use Planning Guideline (1992) and will follow up with a proposal notice on the Environmental Registry once the draft is prepared. In addition, MNR posted a notice informing the public about prescribed burns scheduled to be conducted during 2009.

Bad Use of Information Notices

On several occasions, ministries used information notices inappropriately during this reporting period, stating that the initiatives were not "policy decisions" for a variety of reasons. For example, MOE and MNR should have posted regular proposal notices for Bill 212, the *Good Government Act, 2009*. The Act makes amendments to a number of statutes, including the EBR and some acts prescribed under the EBR. Although most of the amendments were administrative in nature, the ECO believes that some changes were environmentally significant. For example, the Act amended the *Fish and Wildlife Conservation Act, 1997* to allow landowners, with the minister's authorization, to protect their property by harassing, capturing or killing elk. The ECO encourages ministries to use proposal notices for any future omnibus bills with the potential to have a significant effect on the environment.

Ministry Decisions That are Not Prescribed

In 2009/2010 various ministries made extra efforts to inform the public by voluntarily posting environmentally significant decisions as information notices because they fall under ministries, acts, or instruments that are not prescribed under the *EBR*. For example, MOE posted 27 information notices for Source Protection Committee terms of reference under the *Clean Water Act, 2006*, and MNR posted 23 information notices for proposed permits and agreements under the *Endangered Species Act, 2007*.

MNDMF posted six information notices for amendments to mine closure plans. Although new mine closure plans are classified as instruments under the *EBR*, in 2001 MNDMF decided not to classify amendments to mine closure plans (if proposed by the licensee) under the *EBR*. The ECO noted in our 2005/2006 Supplement to the Annual Report (pg. 18) that "[t]hese amendments can be as environmentally significant as the original closure plans, and they must be approved by MNDM[F]." The ECO continues to encourage MNDMF to classify mine closure plan amendments as instruments under the *EBR* in order to provide opportunities for public participation through regular proposal notices on the Environmental Registry in the future.

The ECO supports and encourages the ministries' approach to posting information notices for proposals and decisions that are not prescribed. However, the ECO continues to urge the government to prescribe new government laws and initiatives that are environmentally significant under the *EBR* within one year of implementation to ensure that environmentally significant decisions are appropriately posted. (See Section 8 of the Supplement to this Annual Report for a more detailed discussion of the issue of prescribing ministries and acts.)

For ministry comments, please see Appendix C.

9.3.1 Cage Aquaculture Licences: Fishy Public Consultation

Along the picturesque shores of Georgian Bay, float a number of cages used to raise rainbow trout. Cage aquaculture is a method of fish farming that involves growing fish in cages or "net pens" suspended in a lake, river or ocean. Rainbow trout aquaculture started in this area in 1982 and accounts for approximately 75 per cent of Ontario's trout production. There are ten sites in Georgian Bay that use large marine-type cages, typically between 6 and 20 cages per operation. While Ontario allows cage aquaculture operations in the Great Lakes, most natural resource agencies in the United States do not allow or promote cage culture in public waters. Cage aquaculture in waters over public land, such as the Great Lakes, is controversial because of the potential impacts on local water quality, native fish species and the aquatic ecosystem.

Untreated waste, such as fish feces, uneaten food and medications, can flow from the cages into the lake or river and negatively affect water quality. Researchers estimated that the annual loadings in the North Channel of Lake Huron and Georgian Bay from cage aquaculture included 15 tonnes of phosphorus, 90 tonnes of nitrogen and 500 tonnes of solid waste in 1999. The native aquatic community can also be disturbed by cage aquaculture operations, mostly from fish that escape from the aquaculture facility. For example, there can be ecological harm through introduction of farmed fish that are not indigenous to the area; loss of genetic fitness of indigenous fish through interbreeding with farmed fish; spread of fish pathogens to natural populations; and loss or degradation of fish

habitat including eutrophication or increased sediment in the bottom of the lake. Many shoreline residents and non-government organizations strongly oppose cage aquaculture in the Great Lakes.

The Ministry of Natural Resources (MNR) issues licences to cage aquaculture operators under O. Reg. 664/98 (Fish Licensing) of the *Fish and Wildlife Conservation Act, 1997 (FWCA)*. Cage aquaculture licences are prescribed instruments under the *EBR*. MNR is required to post aquaculture licence proposals on the Environmental Registry for full public consultation if the operator is required to submit a detailed ecological risk analysis to MNR or if the operation is in water covering Crown Land (e.g., the Great Lakes). A risk analysis is used to determine what effect escaped fish might have on the ecology and genetics of the fish that live in the receiving waters. Under the *EBR*, there is no requirement to post fish licences for cage aquaculture operations on private land.

Despite these licences being prescribed instruments, it is MNR's position that *EBR* provisions for consultation or appeal do not apply to licences for cage aquaculture in the Great Lakes or over Crown Land. For these types of operations, MNR applies its Class Environmental Assessment for Resource Stewardship and Facility Development (Class EA), under the *Environmental Assessment Act (EAA)* to issue licences. Ministries are exempt from *EBR* consultation and appeal provisions if an instrument is part of a project approved under the *EAA*. Additionally, MNR's policies direct that a detailed ecological risk analysis is only required in exceptional circumstances.

Since 2004, MNR has only posted one aquaculture licence on the Environmental Registry as an instrument proposal; instead, it used information notices with comment periods for 11 new and amendments to existing licences. In March 2010, MNR posted four of these information notices on the Environmental Registry for the reissuance of aquaculture licences in Georgian Bay and around Manitoulin Island (Environmental Registry #010-9601, #010-9361, #010-9362 and #010-9363). In all four cases, MNR classified

the aquaculture licences as Category A projects – indicating their potential for low negative environmental effects and public or agency concern – under its Class EA. Category A projects are intended to include minor administrative procedures, low intensity facility development and routine resource stewardship projects. Furthermore, as identified within the Class EA, public consultation, project evaluation or environmental study reports are not required for this project classification.

In our 2004/2005 Annual Report, the ECO criticized MNR for "ignoring the spirit of the *EBR* and failing to provide full public consultation on most ... aquaculture licences, despite growing public interest and despite the clear intent of the *EBR*'s O. Reg. 681/94, Classification of Proposals for Instruments." If MNR continued to exempt Great Lakes cage aquaculture from *EBR* instrument requirements, the ECO also encouraged MNR to revise O. Reg. 681/94, after full public consultation and recommended that MNR develop transparent and accountable processes related to approvals. Significant differences exist between regular proposal notices posted on the Environmental Registry and information notices. With regular proposal notices, a ministry is required to consider public comments and post a decision notice explaining the effect of comments on the ministry's decision (for more information on information notices, see Part 9.3 of this Annual Report).



The ECO is seriously concerned that MNR continues to classify cage aquaculture licences in the category of lowest concern, given longstanding public anxiety with cage aquaculture in the Great Lakes and the potentially damaging impacts to the aquatic environment. By MNR classifying cage aquaculture projects as Category A, MNR absolves itself of all public consultation requirements when issuing licences, through its Class EA process and through the EBR. The ECO is disappointed that – five years later – MNR continues to circumvent the essence of the EBR without a revision to O. Reg. 681/94 or addressing cage aquaculture approval consultation weaknesses. The public deserves better public consultation on cage aquaculture licences in the Great Lakes.

In 2004, MNR identified a forthcoming policy to guide aquaculture on Crown Land in its aquaculture policy statement (FisPo.9.1.1.). Unfortunately, as of March 2010, MNR has not released its policy for aquaculture on Crown Land for public consultation. MNR has, however reposted a proposal on the Environmental Registry for its Coordinated Application, Review and Decision Guidelines for Cage Aquaculture Sites in Ontario under the *Fish and Wildlife Conservation Act, 1997* and regulations. The ECO will report on this proposal in a future annual report.

9.4 Use of Exception Notices

In certain situations, the *Environmental Bill of Rights, 1993* (EBR) relieves prescribed Ontario ministries of their obligation to post environmentally significant proposals on the Environmental Registry for public comment.

There are two main instances in which ministries can post an "exception notice" to inform the public of a decision and explain why it was not posted for public comment. First, there is the "emergency" exception. Ministries are able to post an exception notice under section 29 of the EBR when the delay in waiting for public comment would result in danger to public health or safety, harm or serious risk to the environment, or injury or damage to property. Second, there is the "equivalent public participation" exception. Ministries can post an environmentally significant proposal as an exception notice under section 30 of the EBR when the proposal will be or has already been considered in another public participation process that is substantially equivalent to the requirements of the EBR.

During the 2009/2010 reporting year, 14 exception notices were posted on the Environmental Registry by the Ministry of the Environment (MOE) and the Ministry of Northern Development, Mines and Forestry (MNDMF). MOE and MNDMF together posted 13 exception notices for instruments and MOE posted one exception notice for a policy. In all but one case, MOE and MNDMF relied on the "emergency" exception. The ECO believes that all notices posted on the Environmental Registry in 2009/2010 were acceptable uses of the exception provisions provided in the EBR.

For example, in July 2009 MOE posted eight exception notices on the Environmental Registry relating to the issuance of emergency Certificates of Approval for temporary waste disposal sites in Toronto. On June 22, 2009, City of Toronto workers declared a strike which disrupted numerous municipal services, including the collection, transfer and disposal of waste in Toronto. MOE issued temporary emergency approvals for Toronto's contingency plans for dealing with waste during the labour disruption, such as private waste transfer stations. The ECO believes that MOE's use of exception notices for the emergency waste disposal sites in Toronto was acceptable.

In March 2010, MNDMF posted an exception notice for the issuance of a minister's direction order for work at the Kerr-Addison mine tailings ponds and dam. The mine tailings spillway and dam were at risk of catastrophic failure, and the minister directed MNDMF staff to do work to prevent, eliminate and address any adverse effects. Previous to the exception notice, MNDMF had inappropriately posted an information notice (#010-8585) on the Environmental Registry for an order issued to the proponents under the *Mining Act* to rehabilitate the mine hazard (for more information, please refer to Section 2 of the Supplement to this Annual Report). The ECO believes that MNDMF's use of an exception notice for the minister's direction order related to the Kerr-Addison mine tailings ponds and dam was acceptable.

For ministry comments, please see Appendix C.

9.5 Late Decision Notices and Undecided Proposals

When ministries post notices of environmentally significant proposals for policies, acts, regulations or instruments on the Environmental Registry, they must undertake to post notices of their decisions on those proposals. In a decision notice, ministries must include an explanation of the effect of public comment on their final decisions.

Sometimes ministries either fail to post decision notices promptly or do not provide the public with updates on the status of older, as yet undecided proposals. In those cases, neither the public nor the ECO is able to tell whether the ministry is still actively considering the proposal, has decided to drop the proposal, or has implemented a decision based on the proposal while failing to post a decision notice. This reduces the effectiveness of the Environmental Registry, and may make members of the public reluctant to rely on it as an accurate source of information.

The ECO periodically makes inquiries to ministries on the status of proposals that have been on the Environmental Registry for more than a year and suggests they post either updates or decision notices.

The ECO commends MOE for undertaking a special project to update many long-languishing registry proposals. In May 2010, MOE advised that its staff have been able to post decisions on approximately 700 outstanding instrument proposals as well as approximately 20 outstanding policy, act and regulation proposals. The ministry also advised that its backlog has now been reduced to approximately 350 instrument proposals and 70 proposals for policies, acts and regulations. The ministry's goal is to update proposals that are older than one year.

Below is a very small sampling of the many proposals for policies, acts, regulations and instruments posted before March 31, 2009, and still outstanding on the Registry as of April 1, 2010.

Ministry	Title	Registry #	Proposal Date
Northern Development, Mines and Forestry	A proposed amendment to O.Reg 59/01 under the <i>Professional Geoscientist Act, 2000</i>	RD01E1025	July 18, 2001

Environment	Emission Reductions From Ontario's Industrial Sources	PA01E0026	Oct. 24, 2001
Agriculture, Food and Rural Affairs	Directive under the <i>Farming and Food Production Protection Act</i>	PC02E0001	Feb. 08, 2002
Natural Resources	Proposed Guidelines for Commercial Harvesting of Lake Herring for Bait in the Northwest Region	PB02E1002	Aug. 09, 2002
Environment	Electric Power Generation Sector Regulation	RA8E0034	Nov. 27, 1998
Municipal Affairs and Housing	Northwestern Ontario Smart Growth Panel Letter of Strategic Advice	PF03E0002	Feb. 28, 2003

The Importance of Posting Prompt Decision Notices

On October 10, 2007 the Ministry of the Environment (MOE) posted a 30-day instrument proposal notice (Registry #010-1827) for a permit to take water for industrial and bottling uses for Glenbriar Bottled Water Co. Ltd. The proposal received 76 comments, almost all strongly opposing the permit. MOE issued the permit on March 6, 2008, but posted the instrument decision notice on February 26, 2010.

Posting the instrument decision notice in such a tardy fashion erodes the role of the Environmental Registry as a timely source of information and venue for dialogue between the government and the public. For almost two years after the permit issuance, the public would not have known that MOE had issued a permit by monitoring the Environmental Registry because no decision notice had been posted. One could have assumed that the decision was still pending.

Posting late decision notices limits Ontarians' ability to make effective use of the appeals process. When the Environmental Review Tribunal grants a leave to appeal an instrument the permit is automatically suspended. The proponent enjoyed a two-year period of unobstructed use of a public resource while the public did not have the chance to appeal the decision. MOE's delay in posting the decision notice may have resulted in the public's opposition fizzling out.



Part Ten

Appeals, Lawsuits and Whistleblowers

The *Environmental Bill of Rights, 1993 (EBR)* provides Ontarians with several legal tools that enable them to enforce and protect their environmental rights, including:

- Appeal Rights – the right to request appeals of certain ministry decisions;
- Public Nuisance Claims – the right to sue for damages for direct economic or personal loss because of a public nuisance that has harmed the environment;
- Harm to a Public Resource Claims – the right to sue if someone is breaking, or is about to break, an environmental law that has caused, or will cause, harm to a public resource; and
- Whistleblower Protection – the right to protection against reprisals for reporting environmental violations in the workplace or for otherwise exercising rights under the *EBR*.

Appeals

The *EBR* provides Ontarians with the right to apply for leave (i.e., permission) to appeal certain ministry decisions that relate to instruments prescribed under the *EBR*, such as decisions to issue permits, licences or certificates of approval to companies or individuals. Ontario residents who wish to seek leave to appeal a decision must apply to the proper appeal body – generally the Environmental Review Tribunal (ERT) or Ontario Municipal Board (OMB) – within 15 days of the decision being posted on the Environmental Registry.

However, to be granted leave to appeal, applicants must first successfully demonstrate that:

- they have an interest in the decision in question;
- no reasonable person could have made the decision; and
- the decision could result in significant harm to the environment.

During the 2009/2010 reporting period, concerned members of the public filed ten leave to appeal applications. All but one of the appeals involved instruments issued by the Ministry of the Environment (MOE), including permits to take water (PTTWs) and Certificates of Approval. The remaining instrument was issued by the Technical Standards and Safety Authority (under the Ministry of Consumer and Business Services).

Leave to Appeal Applications Filed in 2009/2010

Total Applications Filed	10
Leave granted	4
Leave denied	4
Leave decision pending (as of March 31, 2010)	2

Two of the leave to appeal applications are described below. Details on the other appeal applications are provided in Section 7 of the Supplement to this Annual Report, and can also be found in the notices posted on the Environmental Registry, as well as on the Environmental Review Tribunal's website at www.ert.gov.on.ca.

Simcoe County Residents Challenge PTTW for Quarry

On December 3, 2009, MOE granted a PTTW to M.A.Q. Aggregates Inc., authorizing the company to take groundwater for a new quarry located in Simcoe County for 5 years. The proposal notice posted on the Environmental Registry for this permit elicited considerable public interest, with many commenters expressing significant concern about the potential impacts of the water-taking on the surrounding water resources.

A neighbour of the proposed quarry along with a local property owners group (the Trent-Talbot River Property Owners Association) applied for leave to appeal the ministry's decision to issue the PTTW. These applicants raised several grounds for their appeal, including arguments that the PTTW is inconsistent with:

- provisions in O. Reg. 387/04 under the *Ontario Water Resources Act*;
- some of the guidelines and policies in the PTTW Manual, 2005; and
- the ministry's Statement of Environmental Values, including principles to adopt an ecosystem approach to environmental protection and resource management, and to consider the cumulative effects on the environment.

The applicants also argued that the PTTW could result in significant harm to the environment, particularly, that the dewatering activities could interfere with the neighbours' water supply.

In a decision issued on July 10, 2009, the ERT granted the application for leave to appeal, but only in part. The ERT found that the applicants had met the first part of the test for leave to appeal (i.e., that no reasonable person could have made the decision) on the ground that MOE had failed to adequately consider the cumulative effects of the proposed quarry when the PTTW was issued. The ERT also found that the applicants had met the second part of the test by providing evidence that suggested that dewatering of the quarry could present a risk to the water supply in the area of the quarry.

However, the ERT held that the applicants had not met the first part of the test for any other ground raised. Therefore, the ERT granted the applicants' request for leave to appeal only on the one specified ground. The matter may now proceed to a full hearing on this issue.

Environmental Groups Challenge PTTW for Construction of New Subdivision

On April 27, 2009, MOE issued a PTTW to two companies, authorizing them to take water from both groundwater and surface water sources over a ten-year period during the construction of a new subdivision (Findlay Creek Village) in the City of Ottawa.

Two environmental groups – the Greenspace Alliance of Canada's Capital and the Sierra Club Canada – sought leave to appeal MOE's decision to issue this PTTW on a number of grounds, including:

- The development is in a provincially significant wetland, which is prohibited by the Provincial Policy Statement, 2005, and the PTTW does not include appropriate conditions to protect the wetland from adverse effects;

- MOE's decision fails to comply with O. Reg. 387/04, the Water Taking and Transfer Regulation under the *Ontario Water Resources Act*; and
- MOE failed to consider and incorporate its Statement of Environmental Values in the PTTW.

On July 29, 2009, the ERT granted leave to appeal to the applicants, but only in part. The ERT concluded that the applicants had satisfied the first branch of the test for leave to appeal (i.e., that no reasonable person could have made the decision) with respect to a small number of issues argued under the ground that MOE's decision failed to comply with O. Reg. 387/04. The ERT concluded that the applicants satisfied the second branch of the test, having provided sufficient evidence to demonstrate that MOE's decision to issue the PTTW could result in significant harm to the environment.

Accordingly, the ERT granted the applicants leave to appeal, but only on specific provisions of the PTTW. The remaining grounds raised by the applicants were not allowed as part of the appeal. The matter may now proceed to a full hearing.

Public Nuisance Cases

Before 1994 when the *EBR* came into force, claims for public nuisances in Ontario had to be brought by, or with leave of, the Attorney General. Since 1994, under section 103 of the *EBR*, someone who has suffered direct economic loss or personal injury as a result of a public nuisance that has harmed the environment can bring forward a claim without the approval of the Attorney General.

No new lawsuits that include public nuisance as a cause of action came to the ECO's attention during the reporting period, although one case launched in 2001 – *Pearson v. Inco Limited et al*, later renamed *Smith v. Inco* – has continued to move through the courts for almost a decade. As reported in previous annual reports, in 2005, the Ontario Court of Appeal allowed a group of over 7,000 property owners to be certified as a class of litigants to bring their lawsuit against Inco. The property owners sought damages for loss of property values resulting from nickel emissions from an Inco facility near Port Colborne. In June 2006, the Supreme Court of Canada rejected Inco's application to appeal the class action certification, enabling the case to finally proceed to trial.

In October 2009, the case was tried in the Ontario Superior Court of Justice in a 101-day trial. On July 6, 2010, the court released its decision, siding with the property owners and awarding them \$36 million in damages. The court found Inco liable under the strict liability doctrine set out in *Rylands v. Fletcher*. That case established the legal principle that a person who engages in a "non-natural" activity, using something that is likely to cause mischief if it escapes, is liable for all damages that are the consequence of its escape. The court found that nickel refining is not "an ordinary use of the land," and that the escape of nickel particles from the Inco property through emissions into the air has the potential to cause damage to neighbouring properties.

However, the court found that the class members did not have a claim for public nuisance as they had made no allegation that Inco's conduct had affected any public resource, such as a lake or river.

The Right to Sue for Harm to a Public Resource

The *EBR* gives Ontarians the right to sue any person that is breaking, or is about to break, an environmental law, regulation or instrument that has caused, or will cause, harm to a public resource. To date, the only court action brought under the Harm to a Public Resource provisions of the *EBR* for which notice has been provided to the ECO is a proceeding started in 1998 by the Braeker family against the Ministry of the Environment and Max Karge, an owner of an illegal tire dump. Civil actions often take a long time to be resolved, and the Braeker action is ongoing. The ECO will continue to monitor this case and will report on its ultimate conclusion.

Whistleblower Rights

The *EBR* protects employees against reprisals by employers if they report environmental violations in the workplace or otherwise exercise their rights under the *EBR*. There were no whistleblower cases in this reporting year.

Appendix A - Summary of 2009/2010 ECO

Recommendations

Recommendation 1 (Part 3.1 – Climate Change and Biodiversity Turmoil)

The ECO recommends that the Ministry of Natural Resources lead the development of a new and reconceived biodiversity strategy for the Ontario government.

Recommendation 2 (Part 3.2 – Wanted: One Billion Trees)

The ECO recommends that the Ministry of Natural Resources lead a co-ordinated afforestation strategy for southern Ontario, with a target of planting 1 billion trees of native species, to address the long-term ecological function of natural heritage systems and the impacts of climate change.

Recommendation 3 (Part 3.3 – Species at Risk: Progress and the Path Ahead)

The ECO recommends that the Ministry of Natural Resources complete the necessary policy framework to support the *Endangered Species Act, 2007*, with the required public consultation.

Recommendation 4 (Part 3.5 – Mixed Results: Management of Caribou, Moose, Elk and Deer)

The ECO recommends that the Ministry of Natural Resources ensure that caribou habitat be a prime consideration in how and where it plans to protect 50 per cent of lands in the Far North.

Recommendation 5 (Part 3.8 – Bringing Ecological Integrity to the Landscape: Ontario's Protected Areas Planning Manual)

The ECO recommends that the Ministry of Natural Resources amend the *Provincial Parks and Conservation Reserves Act, 2006* to make management direction for protected areas binding on the Crown.

Recommendation 6 (Part 4.1 – Sewage Treatment; Not Good Enough)

The ECO recommends that the Ministry of the Environment monitor and publish annual reports on the quality of municipal wastewater discharges to Ontario waterways, providing both concentrations and loadings of key pollutants.

Recommendation 7 (Part 4.3 – Not Airtight: Amendments to Ontario's Air Quality Regulation)

The ECO recommends that the Ministry of the Environment include reporting requirements in all sector-based standards to ensure that information on industrial air emissions remains publicly available.

Recommendation 8 (Part 4.5 – A Watershed Moment? Ontario Introduces the Lake Simcoe Protection Plan)

The ECO recommends that the Ministry of Municipal Affairs and Housing amend the Provincial Policy Statement to require integrated watershed management planning.

Recommendation 9 (Part 4.6 – The Draining Act: Drying up Ontario's Wetlands)

The ECO recommends that the Ministry of Agriculture, Food, and Rural Affairs amend the *Drainage Act* and its policies to ensure that provincially significant wetlands are protected from being drained.

Recommendation 10 (Part 5.1.3 – Ring of Fire: Using Mining Claims to Plan the Far North)

The ECO recommends that the Ministry of Northern Development, Mines and Forestry consult on safeguards to ensure that electronic map staking is not misused as de facto land use planning in the Far North.

Recommendation 11 (Part 6.1 – Aging Landfills: Ontario's Forgotten Polluters)

The ECO recommends that the Ministry of the Environment establish and implement a plan to update Certificates of Approval for Ontario landfill sites, with priorities based on environmental risks.

Recommendation 12 (Part 6.3 – Sewage Biosolids: New Rules for Use on Agricultural Land)

The ECO recommends that the Ministry of the Environment lead a multi-ministry initiative to create a new compost-centred policy vision for the management of organic residuals in Ontario.

Recommendation 13 (Part 6.4.1 – Biochar: The Promising Future for an Ancient Process)

The ECO recommends that the Ministry of Agriculture, Food and Rural Affairs and the Ministry of the Environment develop guidelines, with public consultation, for biochar production and use in Ontario.

Recommendation 14 (Part 7.1 – Pushing for Natural Heritage Planning on the Waterloo and Paris-Galt Moraines)

The ECO recommends that the Ministry of Municipal Affairs and Housing amend the Provincial Policy Statement to require that the long-term ecological function and biodiversity of natural heritage systems are maintained.

Recommendation 15 (Part 7.6 – Planning for Stormy Weather)

The ECO recommends that the Ministry of the Environment take the lead on collecting appropriate hydrologic data, and creating models, to allow stormwater management planning to reflect changing climate patterns.

Appendix B - Financial Statement

Office of the Environmental Commissioner

Statement of Expenditure

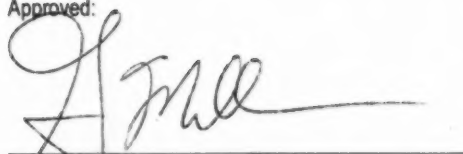
For the Year Ended March 31, 2010

	2010 \$	2009 \$
Salaries and wages	1,462,332	1,277,470
Employee benefits (Note 4)	312,750	253,574
Transportation and communication	83,239	80,776
Services	1,102,276	1,012,679
Supplies	183,842	187,357
	<u>3,144,439</u>	<u>2,811,856</u>

Commitments (Note 5)

See accompanying notes to financial statement.

Approved:



Environmental Commissioner

Office of the Environmental Commissioner

Notes to Financial Statement

March 31, 2010

1. Background

The Office of the Environmental Commissioner commenced operation May 30, 1994. The Environmental Commissioner is an independent officer of the Legislative Assembly of Ontario, and promotes the values, goals and purposes of the *Environmental Bill of Rights, 1993 (EBR)* to improve the quality of Ontario's natural environment. The Environmental Commissioner also monitors and reports on the application of the *EBR*, participation in the *EBR*, and reviews government accountability for environmental decision making.

2. Significant Accounting Policies

BASIS OF ACCOUNTING

The Office follows the basis of accounting adopted for the Office of the Assembly as required by the *Legislative Assembly Act* and accordingly uses a modified cash basis of accounting which allows an additional 30 days to pay for expenditures incurred during the year just ended. This differs from Canadian generally accepted accounting principles in that for example liabilities incurred but unpaid within 30 days of the year end are not recorded until paid, and expenditures for assets such as computers and office furnishings are expensed in the year of acquisition rather than recorded as capital assets and amortized over their useful lives.

3. Expenditures

Expenditures are paid out of monies appropriated by the Legislative Assembly of Ontario.

Certain administrative services are provided by the Office of the Assembly without charge.

4. Pension Plan and Post-retirement Benefits

The Office's permanent employees (and non-permanent employees who elect to participate) participate in the Public Service Pension Fund (PSPF) which is a defined benefit pension plan for employees of the Province and many provincial agencies. The Province of Ontario, which is the sole sponsor of the PSPF, determines the Office's annual payments to the fund. As the sponsor is responsible for ensuring that the pension funds are financially viable, any surpluses or unfunded liabilities arising from statutory actuarial funding valuations are not assets or obligations of the Office. The Office's required annual payments of \$115,647 (2009 - \$93,360), are included in employee benefits expense.

The cost of post-retirement non-pension benefits were paid by the Ministry of Government Services and are not included in the statement of expenditure.

5. Lease Commitments

The Office has a lease agreement with its landlord for its current premises expiring on February 28, 2018. The minimum lease payments for the remaining term of the lease are as follows:

	\$
2010/11	219,400
2011/12	219,400
2012/13	220,600
2013/14	233,600
2014/15	233,600
2015/16 and beyond	681,300
	<u>1,807,900</u>

Appendix C – Ministry Comments

In this Appendix, ministries provide feedback to the Environmental Commissioner on articles contained in the main part of the Annual Report.

Part 2: Developing a Conserving Society

2.1 Powering the Future: The *Green Energy and Green Economy Act, 2009*

Ministry of Energy and Infrastructure:

Following the introduction of the *Green Energy and Green Economy Act, 2009* (GEGEA), there were a number of opportunities for the public to provide input. The GEGEA was posted on the Environmental Registry for public comment and the proposed legislation was subject to legislative debate and reviewed by the Standing Committee on General Government.

The government is committed to the continued implementation of a conservation culture. As demonstrated by the GEGEA, acceleration of renewable energy and conservation initiatives are two equally important thrusts of the government's energy policy. MEI agrees that conservation is a top priority. The minister issued a direction/directive to the Ontario Power Authority (OPA) and Ontario Energy Board (OEB) in April 2010 to set aggressive conservation targets for all local distribution companies (LDCs). This will allow for LDCs to be the face of conservation and allow all Ontarians to participate in conservation programs.

The government remains committed to developing renewable energy sources and the OPA continues to accept applications for the Feed-in Tariff (FIT) program. No targets or caps for FIT have been set; the OPA will continue to exercise its responsibility to protect ratepayers by ensuring that tariffs are fair and reasonable. From a planning perspective, conservation targets are required to identify the resources needed to undertake conservation activities as well as to forecast the future demand for electricity. The Conservation Demand Management target set by the minister's directive to the OEB includes aggressive targets plus strong incentives to exceed the targets by 50 per cent.

Many key GEGEA initiatives have been implemented, including:

- FIT program and associated support programs;
- New Renewable Energy Approval;
- Regulation to remove barriers to small-scale renewables;
- Regulation on service guarantees for completion of wires assessments to connect renewables;
- Regulation to provide opportunities for municipalities to partner with third parties on renewable generation projects;
- Directive to establish mandatory conservation targets for LDCs.

Ministry of Municipal Affairs and Housing:

MMAH initiated a review of the energy conservation standards in the Building Code within six months of the GEGEA coming into force. This is part of a broader review of the Building Code, leading to the anticipated release of a new edition in 2011.

The Building Code Energy Advisory Council (the "Council") has been meeting monthly since its establishment in winter 2010 and is preparing to put strategic recommendations forward in fall 2010 for consideration by the government. This would be followed by public consultation and technical review. The proposed *Water Opportunities and Water Conservation Act, 2010* (Bill 72) would explicitly expand the mandate of the Council to deal with water conservation as well as energy conservation.

2.2 Ramping Up Renewables: MOE's Renewable Energy Approvals

Ministry of the Environment:

Promoting renewable energy in a manner that protects human health and the environment is a priority of MOE. Balancing ambitious renewable energy generation goals with sustainable environmental stewardship is at the heart of ministry policies. The regulation establishes clear rules to achieve this protection, and the ministry will not issue Renewable Energy Approvals (REAs) for any project applications not meeting these requirements.

The ministry considers cumulative impacts as part of the REA process. Much of this is embedded in the review process itself. In the case of cumulative wind turbine noise, cumulative impacts are explicitly dealt with in section 55 of the regulation which prohibits construction of wind turbines where cumulative noise from all existing and proposed turbines within a 3-kilometre radius would exceed the ministry's noise limits at a noise receptor.

The 15-day period for people to exercise their appeal rights is consistent with other appeal provisions, both third-party leave to appeals under the EBR and proponent appeals under the *Environmental Protection Act* and the *Ontario Water Resources Act*. The ministry provided third-party appeal rights that did not previously exist; in essence, there are greater appeal rights overall.

The requirements to consult with municipalities, Aboriginal communities and the public ensure that the REA process considers a broad range of views and expertise from a broad range of people. The regulation also requires applicants to prepare a consultation report for the Director's review. Where there has been insufficient engagement, the Director may require further consultation or refuse to accept an application.

2.3 MNR Approvals for Greening the Grid

Ministry of Natural Resources:

Section 4 of the Approval and Permitting Requirements Document for Renewable Energy Projects provides an overview of the complete submission process. MNR will post a consolidated notice jointly with MOE for all approvals and permits. This will ensure that all of the required authorizations and any associated conditions are thoroughly considered and communicated to the public in a concise and timely manner. MNR looks forward to working with ECO staff as we further develop the process that ensures continued transparency of MNR decisions in support of renewable energy projects.

2.4 Mandatory GHG Reporting: What Gets Measured Gets Managed

Ministry of the Environment:

MOE is working with Western Climate Initiative (WCI) partners through the Reporting Committee to build capacity to meet jurisdictional verification requirements, including conflict of interest provisions. Time exists to build this capacity before the first verification reports are due in 2012.

Ontario has a multi-pronged approach to meeting greenhouse gas (GHG) reduction targets. Ontario's developing cap-and-trade program is mindful of U.S. developments through our WCI partnership and as observers with other regional programs. Ontario continues to seek input from key sectors in the province, independently and in conjunction with WCI partners. A cap-and-trade program will help achieve lowest cost GHG reductions; however MOE is not depending on cap-and-trade alone to meet targets. Ontario will look at a range of actions and report on progress through the Annual Progress Report.

2.5 Pricing Carbon: Can a Cap-and-Trade System Deliver the Tonnes?

Ministry of the Environment:

Putting a price on carbon is an effective way to reduce greenhouse gases (GHGs) and help industry transition to a low-carbon economy. As the ECO points out, cap-and-trade is one way to put a price on carbon and is one of MOE's key climate change initiatives.

Ontario is committed to keeping industry competitive and is working with key partners to design a program that aligns with the emerging North American approach to ensure a level playing field for our industry.

As Ontario develops its cap-and-trade program, it will ensure that portions of the Act yet to be proclaimed are used appropriately. Revenue generated through auctioning of allowances will be used for GHG reductions within the capped sectors and be disbursed transparently. Ontario is strongly committed to involving stakeholders to develop a program that is fair and works for the province. Stakeholders are also being consulted to inform the approach to distributing allowances and promoting greenhouse gas reductions.

Part 3: Conserving Our Biodiversity

3.1 Climate Change and Biodiversity Turmoil

Ministry of Natural Resources:

In 2010, the Ontario Biodiversity Council (the "Council"), in partnership with MNR, released Ontario's first State of Biodiversity report and a Progress Report on the implementation of Ontario's Biodiversity Strategy. The State of Biodiversity report is comprised of 29 indicators providing an overview of Ontario's natural assets and pressures on biodiversity. The indicators signal trends in species diversity, protection of rare ecosystems, freshwater quality, and other parameters. The report shows conservation efforts in Ontario have increased; however, many aspects of the province's biodiversity remain threatened. Additionally, one-third of the indicators establish baseline data to measure the status of biodiversity in the future.

MNR is supporting climate change research that focuses on understanding the impacts of climate change, mitigation, and adaptation. Biodiversity is an important aspect of this work. Recent examples include an assessment of the vulnerability of Canada's tree species to climate change, regional projections (a vulnerability assessment tool) of climate change effects on Lake Trout, and modeling that examines current and projected climatic conditions for ecoregions.

MNR will support the Council in the renewal of the 2005 biodiversity strategy and will consider inclusion of long-range planning priorities linking biodiversity conservation to the significant threats posed by population growth, pollution, invasive species, habitat loss, unsustainable use, and climate change.

Ministry of the Environment:

The Government of Ontario recognizes the need to adapt to climate change impacts as the greenhouse gases already in the atmosphere will have an effect on our climate. To prepare for the impacts of climate change, the Minister of the Environment appointed a multi-disciplinary Expert Panel on Climate Change Adaptation to provide advice to the Government of Ontario. Their report was received in November 2009 and included a number of recommendations to better understand and begin to address climate change impacts on biodiversity. This report is being used to inform the path forward on the development of measures to improve Ontario's resilience to climate change.

Ministry of Municipal Affairs and Housing:

The Provincial Policy Statement, 2005 (PPS) is currently undergoing its 5-year review. MMAH appreciates the ECO's comments on how the PPS could be improved and will consider them fully during the review.

Ministry of Transportation:

MTO will continue to reflect the spirit and intent of Ontario's Biodiversity Strategy in all of its transportation activities in a manner that protects critical habitat with a view of conserving biodiversity. MTO will also continue to work with other ministries through the Ontario Public Service (OPS) Biodiversity Network and with other stakeholders in moving forward on Ontario's biodiversity initiatives.

MNR's "Ontario's Biodiversity Strategy Progress Report 2005-2010" highlighted several MTO activities that have contributed to progress towards halting biodiversity loss including:

- MTO's work on Highway 40 Prairie Grass Project in West Region in conjunction with MNR and the Rural Lambton Stewardship Network
- The development of MTO's sustainability strategy with the goal of integrating sustainability into MTO programs, policies, internal operations and decision making processes
- MTO's High Occupancy Vehicle Lane Plan, which began in 2005 to highlight the encouragement for carpooling, transit use and a reduction in traffic congestion
- MTO's Salmon River rehabilitation project on Highway 401 to increase fish habitat and species diversity.

3.2 Wanted: One Billion Trees

Ministry of Natural Resources:

MNR appreciates the ECO's comments on the need to gradually increase afforestation efforts. MNR and its partner Trees Ontario are working together to support enhanced afforestation in southern Ontario. Managing an afforestation program at the scale referenced in the ECO report is a complex undertaking and would require significant capacity increases.

MNR recognizes the importance of the Managed Forest Tax Incentive Program (MFTIP) in promoting forest stewardship and management on private land and is pleased with the increase in program participation over the past five years. While not directly recognized as specific MFTIP objectives, forest stewardship activities fostered through the program complements government's greenhouse gas reduction targets and biodiversity goals through sustainable management of forests on private land across the province.

Ministry of Municipal Affairs and Housing:

The MNR Natural Heritage Reference Manual (NHRM) provides guidance on how to implement the Provincial Policy Statement, 2005. The NHRM provides direction for planning authorities in relation to the identification of significant woodlands, including recommended evaluation criteria.

3.3 Species at Risk: Progress and the Path Ahead

Ministry of Natural Resources:

In June 2010, MNR began a pilot approach for completing recovery strategies, by issuing a Request for Consulting Services. Potential suppliers propose ways to effectively access and consider the best available scientific information, including Aboriginal Traditional Knowledge and community knowledge. Excellent species knowledge and writing abilities are required. Maximum weighting for cost is 35 per cent of the score. MNR's role in developing recovery strategies is ensuring a strategy is prepared for each species within legislative timelines and consistent with *Endangered Species Act, 2007* (ESA) requirements.

MNR recognizes the importance of special concern species and is committed to preparing management plans for them. An amendment to the ESA is not being considered at this time.

Recovery strategies were finalized for 13 species in February 2010. Government response statements, required by November 18, will prioritize actions the government intends to take regarding recovery strategy recommendations. Six consultation sessions in summer 2010 sought feedback on priorities and impacts for inclusion in a government response. Draft government responses will be posted on the Environmental Registry for public input before being finalized.

MNR will continue to solicit public comment, as appropriate, on proposed ESA authorizations and mitigation in a way that balances the detail provided with risk to the species.

Agreements for aggregate operations in Renfrew County that existed prior to the ESA require operators to improve conditions by minimizing adverse effects on wood turtle and reducing negative effects on wood turtle habitat during sensitive periods.

MNR voluntarily posted information notices on the Environmental Registry about ESA permits and agreements before the EBR instrument classification took effect July 1, 2010. MNR will continue to voluntarily post information notices where appropriate and notices for classified ESA instruments will now be posted on the Environmental Registry.

MNR has processes to ensure consistency in decision-making. MNR is committed to engaging stakeholders, Aboriginal interests and the public as it develops policies related to the ESA. MNR is developing policies to elaborate on what constitutes overall benefit, and will seek public input in this regard. Guidelines for assessing the health of butternut trees have been field tested and will move forward for public consultation through the Environmental Registry in 2010.

MNR agrees it is helpful to have a recovery strategy and government response statement prior to including conditions on authorizations. The R.H. Saunders agreement was developed using the best available science and information. It includes provisions to ensure an adaptive management approach; the mitigation plan within the agreement is updated every five years (minimum) to reflect new information or direction from a government response.

Research permits represent 91 per cent of all permits issued to date. A permit may be denied if proposed research outcomes have been achieved previously or the methods/timing of the research would result in high levels of negative impacts to the species.

MNR is working on co-ordinating conditions for ESA and *Lakes and Rivers Improvement Act* approvals. The government's approach to eel recovery will be developed through public consultation during the preparation of the government response statement to the recovery strategy.

MNR agrees that the Conservation Land Tax Incentive Program (CLTIP) is a useful tool to support endangered species protection on private land in Ontario. In 2009, 63 properties participated in the program protecting critical endangered species habitat. MNR will continue to explore opportunities to enhance CLTIP to better protect species at risk.

3.4 A Place to Call Home: Nine Species Receive Regulated Habitat Protection

Ministry of Natural Resources:

A regulation to protect habitat for nine species at risk became effective on February 18, 2010. The regulation, based on draft recovery strategies for each species, incorporates the best available scientific information to determine protected habitat. Activities that damage or destroy habitat for species at risk must be authorized under the *Endangered Species Act, 2007*. Activities that do not damage or destroy habitat may continue, subject to approvals required under other legislation or policies. MNR posted the proposed habitat regulation on the Environmental Registry for comment and held a provincial stakeholder consultation session. MNR also held 12 public open houses across the province before the habitat regulations came into effect, to discuss implementation concerns. MNR is developing guidance on what constitutes damage/destruction of species at risk habitat. MNR will be consulting on this guidance and will be posting on the Environmental Registry.

3.5 Mixed Results: Management of Caribou, Moose, Elk and Deer

Ministry of Natural Resources:

Ontario's Cervid Ecological Framework (CEF) is a strategic policy that provides overarching advice to address cervid management at the broad landscape level. Ontario's Ecological Land Classification system provides the foundation for the Cervid Ecological Zone boundaries, with consideration of cervid species ranges and ecoregional variation in habitat and climate. Further aspects of the zone boundaries and management scales are described in the CEF.

The CEF integrates habitat and population management priorities for cervid management. It recognizes the primary mechanisms for addressing cervid habitat needs, which in addition to Forest Management Planning (FMP) processes, also includes direction for habitat considerations in Far North planning, community-based land

use plans, provincial parks, conservation reserves, municipal planning and consideration of natural heritage features and significant wildlife habitat through the Provincial Policy Statement, 2005. The Caribou Conservation Plan (CCP) emphasizes range management and includes resource development restrictions based on landscape conditions. In accordance with the CCP provisions, forest harvesting in future areas will be deferred until the condition of caribou population and the landscape are evaluated. The long-term caribou monitoring program that began in fall 2009 will evaluate the response of caribou populations to the CCP.

The caribou habitat regulation is being developed with advice from a multi-stakeholder advisory committee. Caribou populations and habitat are considered when Far North community based land use planning designates conservation lands. MNR is working with stakeholders to develop interim policy interpretation and decision-making criteria for the CCP actions. MNR will communicate with other ministries to have caribou conservation incorporated into their resource development initiatives. Since 2007, MNR has funded over \$1.4 million for 24 projects under the Species at Risk Stewardship Fund to improve knowledge of caribou. Over \$6 million has been committed for CCP implementation in 2009/10 and 2010/11. The highest priority actions have key progress benchmarks for implementation identified with timelines in the CCP.

Ontario's Moose Management Policy is supported by the Moose Population Objectives Setting Guidelines and Moose Harvest Management Guidelines, which provide details on implementation and responsibility for population management decisions. Ontario's white-tailed deer management program is guided by the CEF and supported by a number of program-specific policies and procedures. MNR is exploring opportunities to update and consolidate program policies and procedures into a comprehensive provincial policy for the program.

3.6 Managing Black Bears: Thinking Beyond Harvest?

Ministry of Natural Resources:

The Framework for Enhanced Black Bear Management in Ontario provides overarching policy direction for black bear management in Ontario. The policy framework is guiding the implementation of a new black bear management program that is objective based and that requires more specific management actions such as the development of population objectives for each Wildlife Management Unit across bear range. The new population objectives will consider ecological as well as social and economic factors and will be developed in consultation with local stakeholder groups and interested public. Regulated harvest is one of the tools used in the management of sustainable wildlife populations. Harvest goals and strategies are designed to achieve Wildlife Management Unit population objectives and contribute to overall bear population sustainability across the landscape. This elevates the rigour surrounding bear management to that of other valued wildlife species.

MNR made some modifications to the guiding principles and to other wording of the final framework document to address comments received on the draft framework document during stakeholder and broad public consultation. Generally, the changes made to the draft document were to offer greater flexibility and clarity in the final document.

3.7 Forest Management: Conserving Biodiversity at the Stand and Site Scale

Ministry of Northern Development, Mines and Forestry:

MNDMF's forestry mandate provides leadership on forest products industry sector revitalization and transformation initiatives and acts as an advocate for business and economic functions within the forest industry. This includes responsibilities for industrial strategies, competitiveness measures and international trade to support a strong, prosperous and healthy industry.

Because the responsibility for the preparation and implementation of forest management plans remains with MNR, MNDMF will not develop new policy, acts or regulations that would see the ministry become involved in the responsibility for the development of forest management plans. The ministry will continue to work with MNR through existing engagement and consultation processes that are led by MNR, to ensure that the best available information continues to be used in the forest management planning process.

Ministry of Natural Resources:

MNR has a legal obligation to describe its approach to effectiveness monitoring in each of the new guides. The description of effectiveness monitoring included in the Stand and Site Guide highlights ten of the key uncertainties that the authors encountered during the development of the guide, and then provides a relative ranking (high vs. low) to help with the allocation of limited financial resources.

For instance, the uncertainties related to cutting to the shoreline of lakes received a low ranking for further MNR study because of the number of projects on this topic already being conducted. Work is required, however, to determine the largely unstudied catchment scale effects of harvesting compared to natural disturbances such as fire; this question received a high ranking. Similarly, while the literature supports the direction for residual tree retention, its effectiveness on biodiversity conservation still needs to be examined.

The guide speaks generally to MNR's approach to effectiveness monitoring and highlights specific key questions. Further details on monitoring projects are found in MNR's Effectiveness Monitoring of Forest Management Guides: Strategic Direction document, as referenced in the Stand and Site Guide, and through individual, annual work plans for the various projects that will be undertaken in the years to come, as this guide is implemented on the ground. Outcomes of these studies will help guide future policy direction.

3.8 Bringing Ecological Integrity to the Landscape: Ontario's Protected Areas Planning Manual

Ministry of Natural Resources:

MNR is currently preparing supplementary tools and guidelines to assist planning teams with the preparation of management direction for protected areas. Once complete drafts are prepared, it is MNR's intention to post, as appropriate, these tools and guidelines on the Environmental Registry.

The five-year review of the Class Environmental Assessment for Provincial Parks and Conservation Reserves in 2010 will address the consideration of ecological integrity.

Part 4: Conserving Environmental Quality

4.1 Sewage Treatment: Not Good Enough

Ministry of the Environment:

The ECO's comments will help formulate an updated Ontario municipal wastewater policy framework.

Ontario plays a leadership role in the Canadian Council of Ministers of the Environment (CCME) in setting national baseline standards. Many existing requirements in Ontario policy and approvals go beyond CCME's strategy. Ontario's combined sewer overflow policy mandates limits on the amounts of wet weather flow in sewer systems to be retained for future treatment and is more stringent than CCME targets.

Since 1976, MOE has monitored nearshore total phosphorus levels at 17 municipal water intakes from four Canadian Great Lakes. Trend results show total phosphorus levels have declined in Lakes Huron, Erie and Ontario, and remained unchanged in Lake Superior.

MOE has committed to two pilots with the Great Lakes Cities Initiative: (1) MOE is working with some municipalities to develop and test a new method for electronic tracking and reporting of sewage bypasses, and can consult on proposed requirements for municipalities to implement long-term plans for minimizing untreated discharges. (2) MOE and the Cities Initiative are to investigate and pilot new ways of managing stormwater runoff, which will assist municipalities to develop an integrated planning approach to stormwater and wastewater that anticipates the impact of climate change and other pressures.

For transparency, MOE posts Environmental Compliance Reports online – pollution loading information remains available upon request. CCME's strategy will strengthen provincial rules for municipal sewage plants, e.g., uniform monitoring of effluent quality through a proposed federal regulation and public reporting.

The Great Lakes Action Plan, proposed *Water Opportunities and Water Conservation Act* (if passed) and other priorities will influence MOE's wastewater policy. Strong public engagement and strategies for phosphorus control and approaches that look at loadings on a watershed or area-wide basis will be important.

4.1.2 Success Story: Guelph Optimizes its Sewage Treatment

Ministry of the Environment:

MOE agrees that optimization is a beneficial approach. If passed, the proposed *Water Opportunities and Water Conservation Act* would help with water conservation and increased efficiency of municipal infrastructure by requiring Municipal Water Sustainability Plans. These may consider plant or system level optimization.

The ministry is sponsoring an optimization pilot with the Grand River Conservation Authority, Guelph and other municipalities to raise awareness and facilitate initial steps toward plant optimization.

4.1.3 When Bigger Isn't Better: Decentralized Wastewater Treatment Systems

Ministry of the Environment:

If the proposed *Water Opportunities and Water Conservation Act, 2010* is passed, Ontario would become a leading jurisdiction for innovative approaches to water servicing. Proposed requirements for Municipal Water Sustainability Plans set out an integrated approach to municipal services/infrastructure planning that could include alternative water systems. The proposed Water Technologies Acceleration Project would promote development of technology innovations for a range of water servicing alternatives. The ministry supports environmentally effective and cost efficient systems that meet the needs of Ontario's diverse communities.

4.2 Moving from End-of-Pipe to Front-End Toxic Reduction in Ontario

Ministry of the Environment:

The ministry recognizes the importance of effective consultation in the development of legislation and accompanying regulations.

Throughout the development of the Act and regulation, the ministry requested comments through the Environmental Registry and held province-wide public consultations, including a live webcast and meeting one-on-one with stakeholders to discuss their concerns with the proposals. The final Act and regulation balance the views of a wide range of stakeholders, including industry, health, labour, environmental organizations and the public.

The process began with MOE's Creating Ontario's Toxics Reduction Strategy, which was posted to the Environmental Registry in August 2008. The Act and regulation development, guided by stakeholder feedback, followed over the next two years.

Recent technical training sessions clarified how industry could meet the requirements and highlighted opportunities resulting from toxics reduction. The ministry is also proposing to support the regulated community in development of toxics reductions plans through development of technical assistance, as well as both technical and plain language guides.

4.3 Not Airtight: Amendments to Ontario's Air Quality Regulation

Ministry of the Environment:

MOE is committed to ensuring Ontario companies work towards meeting local air standards.

Under O. Reg. 419/05, MOE has introduced 59 new or updated standards in the last five years. MOE developed Technical Standards as an improved mechanism for environmental protection to reduce emissions where sector-wide air standard compliance issues exist.

All requests for registration under the Technical Standards will be posted on the Environmental Registry for public comment. Registered facilities must operate according to specified technical, operational and monitoring requirements. Industry is expected to continually reduce air emissions where technology makes it possible. Facilities continue reporting air emissions through other programs (e.g., National Pollutant Release Inventory).

In order to better manage local air issues, MOE has committed to developing an approach that considers cumulative effects and anticipates dialogue on this as it proceeds. In the interim, installation of best available technologies can reduce airshed impacts.

MOE recognizes the importance of air inspection and enforcement to ensure standards are met. MOE can refuse or revoke a facility's registration if there are concerns regarding adverse effects of a facility's emissions.

4.4 How's the Air on Your Street?

Ministry of the Environment:

The ministry operates a state-of-the-art ambient air monitoring network and works with stakeholders, including various levels of government and academia, in assessing the impacts of street-level emissions on air quality along major traffic corridors and in high density urban areas. For example, the ministry is currently studying road-side air quality in Toronto, which has resulted in the addition of an air monitoring research station at street-level. The Toronto site was installed in March 2009. These street-level monitoring activities, together with air-quality modeling, will enable the ministry to determine whether more comprehensive air monitoring networks would benefit the health of Ontarians. MOE has committed to developing an approach to considering cumulative impacts of mobile and area sources.

4.5 A Watershed Moment? Ontario Introduces the Lake Simcoe Protection Plan

Ministry of the Environment:

Protection of wetlands in the Lake Simcoe Protection Plan (LSPP) is consistent with the Greenbelt Plan and the Oak Ridges Moraine Conservation Plan, with the exception of aggregate operations in non-provincially significant wetlands. Additional conditions for aggregate operations in non-provincially significant wetlands reduce the loss of wetland area and helps restoration efforts following operations.

Building on the recommendations of the original Science Advisory and Stakeholder Advisory Committees, MOE began implementing the LSPP. Once the new committees were in place in early 2010, MOE ensured they were fully briefed on the proposed Phosphorus Reduction Strategy (PRS), the Shoreline Regulation discussion paper, and the Water Quality Trading Feasibility Study. Their guidance and recommendations will be incorporated into final decision-making on all relevant aspects of the LSPP, including the PRS implementation.

A high level of protection is afforded to key natural heritage and hydrologic features, while recognizing that in some circumstances, balanced and informed choices must be made to provide appropriate infrastructure for approved development. LSPP policies limit new development on septic systems within 100 metres of a shoreline while recognizing that existing lots, and some rural uses, have little opportunity to be developed on municipal services. The LSPP builds on these existing provincial plans in the southern portion of the watershed and extends protection of these features to the northern portion.

Through the Provincial Policy Statement Review, MOE, MNR and MMAH will be assessing the need and opportunities for comprehensive and enhanced policies related to integrated watershed management planning and associated guidance.

Ministry of Municipal Affairs and Housing:

MMAH's Regulation Proposal Notice (#010-9557) was supplemental to a previous one on March 14, 2008 (#010-3036). The earlier posting was related to components of the *Clean Water Act, 2006* as they apply to the establishment of on-site sewage maintenance inspections programs in the Building Code.

Pursuant to their enabling statutes, the Greenbelt and Oak Ridges Moraine Conservation Plans apply to decisions in relation to certain land use planning matters, most notably decisions under the *Planning Act*. Water takings in Ontario are governed by the *Ontario Water Resources Act* and the Water Taking and Transfer Regulation, managed through MOE.

While forest management is a permitted use within the Natural Heritage System in the Greenbelt Plan and the Natural Core Areas in the Oak Ridges Moraine Conservation Plan, wood harvesting is regulated under the *Crown Forest Sustainability Act*, and municipal tree cutting and site alteration by-laws.

MMAH appreciates the ECO's comments and will consider them fully during the review of the Provincial Policy Statement, 2005 (PPS). MMAH notes that the PPS contains provisions to protect key ecologically and hydrologically significant features and provides direction to protect water resources using the watershed as the ecologically meaningful scale for planning. Additionally, initiatives are currently being developed by other ministries that will provide further policy direction with respect to water resources.

4.6 The *Drainage Act*: Drying Up Ontario's Wetlands

Ministry of Municipal Affairs and Housing:

For unevaluated wetlands, guidance is found in MNR's Natural Heritage Reference Manual (the "Manual"), which identifies that for unevaluated wetlands that have characteristics or contain components typical of a significant wetland, planning authorities should ensure that wetland evaluations are undertaken prior to processing any planning approvals. Further, the Manual identifies that planning authorities, especially those with relatively few wetland resources, may choose to apply some policy protection for wetlands that are not provincially significant to help ensure that unevaluated wetlands are not viewed imprudently as potential development areas.

MMAH takes seriously its role as the lead in the province's "one-window" land use planning system, and its obligations of upholding the Provincial Policy Statement, 2005 (PPS). Through the City of Ottawa's comprehensive official plan amendment process, MMAH and the City of Ottawa (the "City") worked collaboratively on establishing the "Flewellyn Special Study Area" policy. This approach was seen as an effective means of ensuring that the subject lands, considered to have wetland characteristics, would be protected from development until such time as the City undertook the necessary studies to confirm the appropriate land use designations. The approach taken by MMAH and the City of Ottawa continues to protect the wetland features in the area which is consistent with the PPS.

Ministry of Agriculture, Food and Rural Affairs:

Drainage is an essential part of the infrastructure of rural agricultural Ontario. OMAFRA is committed to working with its partner ministries in protecting our shared environment by balancing the value of drainage against its impact on wetlands.

The *Drainage Act* outlines the process that enables municipalities to construct drainage projects for the benefit of the community and finance those projects through assessments to the users of the drainage works. Environmental concerns regarding drainage projects are addressed through both federal and provincial environmental legislation such as the *Fisheries Act*, the *Conservation Authorities Act* (CAA) or the *Endangered Species Act, 2007*. Consequently, environmental approvals are not issued under the *Drainage Act*, but through these other acts and regulations, many of which are already prescribed under the *EBR*.

OMAFRA's Agricultural Drainage Infrastructure Program (ADIP) only provides grants for drainage projects that comply with federal and provincial environmental legislation and do not adversely impact provincially significant wetlands through the construction or improvement of drainage systems.

OMAFRA is working with MNR to co-chair DART (*Drainage Act* Regulation Team), a working group that brings together OMAFRA, MNR, conservation authorities, and municipal representatives to work towards facilitating the CAA.

Ministry of Natural Resources:

MNR continues to work with other ministries to ensure that wetlands are protected. MNR recently participated in the MOE-led review of stormwater management policies and is co-leading, with OMAFRA, a review of the inter-relationship between the *Drainage Act* and the CAA.

Part 5: Modernizing Mining in Ontario**5.1 Reforming the *Mining Act*****Ministry of Northern Development, Mines and Forestry:**

The free-entry system grants exclusive rights to explore for Crown owned minerals. Exploration and claim staking are only allowed on lands that are open to staking. Most Crown lands that are open to staking allow for multiple land uses. Claimholders have a right to explore for minerals and to bring a claim to lease provided that they comply with government regulatory requirements and approvals to undertake exploration and mining activities.

Through consultations, mineral sector representatives told MNDMF that prior notification of and consultation on their staking intentions could pose challenges for them. Aboriginal peoples also indicated they want meaningful and informed consultation throughout the mining sequence. MNDMF has tried to balance these positions in a way that is fair to all and benefits all Ontarians.

Ontario's new *Mining Act* adds new regulatory permitting provisions for exploration activities to give greater consideration for Aboriginal consultation, environmental remediation and private surface rights owners. MNDMF will, however, retain a competitive framework for claim staking, which is valued by individual prospectors, junior exploration companies and major mining companies because it gives them fair and equal access to lands that are open for staking.

There are many communities in the north where exploration and mining are key contributors to the local and regional economy. An automatic withdrawal of Crown-held minerals rights in these areas, as provided for in southern Ontario, could have unintended negative impacts on future exploration and development potential. MNDMF has, however, recognized that there are circumstances under which it may be appropriate to consider withdrawal of Crown-held mineral rights in northern Ontario and for this reason the *Mining Act* now contains a provision that allows for withdrawal by application.

The phased implementation of map staking would reduce the already low environmental footprint of staking. MNDMF is developing rules for map staking that will ensure that the claim staking process remains competitive and equitable for all players. Options under consideration include placing limits on the number of claims that can be staked or the amount of ground that can be filed at one time. MNDMF will continue to explore all these options to find an approach that will protect the interests of local prospectors and communities.

Under Ontario's new *Mining Act*, work continues regarding the development of regulations that would see the establishment of provisions requiring explorationists to submit a plan or apply for a permit prior to accessing land to conduct prescribed exploration. MNDMF continues to consult on an appropriate classification system. This graduated regulatory system for exploration activities will be designed to accommodate Aboriginal consultation and environmental reclamation and to address the interests of private surface right owners.

Through Ontario's new *Mining Act*, the government is committed to several other environmental protection measures including: embedded in legislation no new mine opening can occur in the Far North unless there is an approved community-based land use plan; the phased implementation of map staking; providing flexibility to facilitate the development of green energy projects; and increased fines and penalties for non-compliance with rehabilitation requirements.

Ministry of Natural Resources:

If Bill 191, the *Far North Act*, 2010, is passed, it would provide a legislative foundation for First Nations and Ontario to work together on community based land use planning in the Far North.

Bill 191 would also:

- set out a framework that would require that to open a new mine, a community based land use plan (CBLUP) would need to be in place; and
- enable a First Nation and Ontario to identify areas for provisional protection before a CBLUP is in place and request that MNDMF remove these areas from further staking until such time as a CBLUP is in place.

If Bill 191 is passed, existing mining claims that maintain good standing can continue to exist on the landscape (subject to the requirements of the *Mining Act*). Changes to the *Mining Act* require greater consultation with First Nations on exploration activities. The Act also provides for the withdrawal of sites of Aboriginal cultural significance from claim staking on Crown lands. In the long term, CBLUPs, will create greater certainty on where development activities can take place in the Far North.

One of the objectives for land use planning in Bill 191 is a significant role for First Nations in the planning. Since June 2009, MNR has been conducting outreach on the Far North Land Use Planning Initiative with First Nations, northern municipalities and stakeholders.

5.1.2 The Ring of Fire: Illegal Construction of Mining-related Projects

Ministry of Northern Development, Mines and Forestry:

In principle, the purpose of the "One Window" Co-ordination Process is that of a business support and facilitation function, and not intended as a regulatory or enforcement mechanism.

The objectives of the "One Window" Co-ordination Process are to provide efficient, transparent and timely review of new advanced exploration or mineral development projects involving more than one government ministry or department. Advanced exploration is defined in the *Mining Act* as the sinking of a shaft or adit, or extraction of materials above a threshold level, the disturbance or movement of prescribed materials, or the construction of a mill. It is MNDMF's understanding that the airstrips closed by MNR and cited by the ECO were as part of an early exploration project, which is currently not regulated under the *Mining Act*. There are obligations that proponents must meet, for example to MNR under the *Public Lands Act*, and that was the procedure followed in this case.

MNDMF is sensitive to these issues, however, and so has introduced new regulatory requirements under *Mining Act* Modernization that will require explorationists to submit a plan or apply for a permit prior to accessing land to conduct prescribed exploration. Exploration will be classified according to the impact of the proposed activities on the land. This will facilitate better co-ordination of early exploration activities in future.

Ministry of Natural Resources:

MNR relies on a risk-based compliance assessment approach for determining when and where to deploy compliance resources. MNR also relies on a ministry telephone hotline that the public can use to report possible violations. The ministry focuses its efforts on the prevention, management and resolution of those unauthorized occupations or work permit violations that pose the highest environmental, civil and public safety risk to the Crown and to other users of public lands. When the ministry becomes aware of a violation, it inspects and/or investigates these situations and determines appropriate compliance and/or enforcement action. Where it is possible and reasonable, the ministry will provide opportunities for the violators to bring the incident into compliance. In these cases, the ministry may negotiate removal/rehabilitation or opt to use various sections of the *Public Lands Act* to authorize occupation by sale/patent, lease, licence of occupation or land use permit.

In 2010, Ontario and federal regulatory ministries and agencies have organized and presented several information and training sessions for companies working in the Far North to provide them with information about governments' regulatory environment and requirements for authorizing mineral exploration activities. Four Ontario and two federal ministries, as well as two other regulatory agencies, participated in the exercise. In addition, in February 2010, a series of joint compliance inspections were completed. A follow-up inspection is planned for late summer 2010.

Part 6: Redefining Waste

6.1 Aging Landfills: Ontario's Forgotten Polluters

Ministry of the Environment:

MOE annually conducts risk-based inspections of active and closed landfills. In addition, in 2009/2010, MOE did a comprehensive manual file review to identify a total of 2449 approved landfill sites that are the subject of a newly developed risk-based inspection strategy to be implemented over the next 5 years.

The difference in the number of sites reported in 2010 compared to those in the 1991 inventory is based on the criteria used to conduct a manual file search. In 2010, only those landfill sites with Certificates of Approval (Cs of A) issued by MOE were reviewed for reporting.

MOE annually receives approximately 1,000 monitoring reports (ground/surface water and air). Reports are reviewed on a risk-based priority basis and remedial measures are recommended, if required.

As part of Landfill Inventory Management Ontario (LIMO), information on all approved landfills will be publicly posted in 2010. A new searchable electronic C of A Library was launched in March 2010. MOE will review how to make inspection information available online. In the interim, the public can obtain inspection reports upon request.

The Integrated Database System (IDS), an internal business tool containing compliance information, is used primarily by Operations Division staff to support tracking/status and compliance initiatives. All MOE staff have access to IDS data as their business needs require.

6.1.1 Ontario's Old Dumps: Patch Them Up or Shut Them Down

Ministry of the Environment:

In 2003, MOE imposed improved operational conditions at the Moscow Landfill site to protect surface and groundwater. These conditions were formalized in the 2009 amended certificate, which also relocated the unused portion of the site's footprint out of a wetland. MOE continues to regularly inspect the site.

6.2 Shedding the Spare Tires: Rolling Out Ontario's Used Tires Program Plan

Ministry of the Environment:

The Used Tires Program Plan manages used tires, including those in stockpiles, under an extended producer responsibility approach. Stewards are financially and physically responsible for managing all their tires. The authority Ontario Tire Stewardship (OTS) required to undertake stockpile abatement activities was granted through the minister's approval of its plan. MOE and OTS are clarifying the definition of tire stockpile.

6.3 Sewage Biosolids: New Rules for Use on Agricultural Land

Ministry of the Environment:

MOE has communicated that beneficial use of non-agricultural source material (NASM) returns nutrients to fields while supporting waste diversion in Ontario.

The government continuously reviews the latest science around potential impacts to soil and groundwater. Ontario Regulation Reg. 267/03 establishes consistent standards for NASM land application – proponents must demonstrate that material will improve crop growth while minimizing environmental risks. Standards set out in regulation apply to all fields where NASM is applied.

The placement of requirements into regulation increases accessibility to information previously in Certificates of Approval. NASM Plans are available under the *Freedom of Information and Protection of Privacy Act*.

A series of plain language fact sheets published in September 2009 provide information on the program.

Ministry of Agriculture, Food and Rural Affairs:

The plant nutrients that are contained in manure and NASM are essential to farm operations. When applied in proper quantities and at appropriate times, the nutrients will aid in achieving optimum crop yields.

While the NASM process has been updated and new quality parameters established, this does not lessen the appropriateness of the manure regulations. These regulations are based on the best science of the day and have undergone rigorous review by the science community who work in concert with the ministry. The ministry continues to review the potential impacts to soil and groundwater from pathogens, metals and other contaminants.

OMAFRA does not recommend prescribing instruments.

6.4 Compost: Appreciating Nature's Sense of Humus

Ministry of the Environment:

The ministry is working to develop a broad strategy to facilitate organic waste diversion in Ontario and to better support diversion efforts by municipalities and industry.

As an important first step, the ministry has proposed a significant update to Ontario's Compost Guideline (Interim Guidelines for the Production and Use of Aerobic Compost, 2004) and compost quality standards. New guidance on facility design, operation and maintenance, which are set out in the proposed guideline, would help mitigate operational problems (including odour issues) at compost facilities. The proposed new compost quality standards would facilitate the composting of additional materials, provide new marketing opportunities for Ontario's compost industry, support municipal waste diversion efforts and encourage investment in composting infrastructure in Ontario. Overall, this proposal would establish a solid framework upon which to build future ministry organic diversion initiatives.

As part of a broad organics strategy, MOE continues to consider other short and long-term approaches that would:

- Support the development of more organic collection and diversion programs in all sectors, residential, institutional, commercial and industrial;
- Stimulate development of new organic processing infrastructure, including composting facilities and other innovative technologies, such as anaerobic digestion;
- Support improved operation of existing and new facilities; and
- Encourage the development of compost markets.

The ministry is collaborating with other jurisdictions in the Western Climate Initiative (WCI) on the development of methods for calculating carbon offsets for compost production. The WCI's goal is to create a cap-and-trade program that includes offsets.

6.4.1 Biochar: The Promising Future for an Ancient Process

Ministry of Agriculture, Food and Rural Affairs:

OMAFRA acknowledges that some stakeholders are interested in biochar as a soil amendment in Ontario. OMAFRA is already partnering on some research into biochar. However, Ontario-based research is in its relative infancy and substantially more data are required before biochar policy can be developed. OMAFRA also needs to consider biochar research in the context of many other competing research priorities.

Part 7: EBR Applications – Some Highlights

7.1 Pushing for Natural Heritage Planning on the Waterloo and Paris-Galt Moraines

Ministry of the Environment:

MMAH has commenced a review of the Provincial Policy Statement, 2005 (PPS). MOE, MNR and MMAH will be assessing as part of this broader review process the need and opportunities for enhanced policies for ecosystem-based planning and greater protection of ecological and hydrological integrity in land use planning.

The ministry will undertake, in collaboration or consultation with partner ministries, First Nations and stakeholders, the development of guidance materials to assist with the implementation of policies protecting hydrologic functions (e.g., policies in the PPS). MOE will establish a process with partner ministries, First Nations and stakeholders to determine the extent and scope of the guidance required.

Ministry of Energy and Infrastructure:

The Growth Plan for the Greater Golden Horseshoe does not create growth, but provides population and employment forecasts that municipalities are required to use as the basis for local planning. The Growth Plan provides policies to plan for growth before it happens and directs growth to existing urban areas to make the best use of existing infrastructure while protecting natural areas and conserving resources. A key component of the proposed *Water Opportunities and Water Conservation Act, 2010*, introduced in May 2010, is the requirement for municipal water sustainability plans to help municipalities identify and plan for their long-term water, wastewater and stormwater infrastructure needs.

Ministry of Municipal Affairs and Housing:

MMAH appreciates the ECO's comments regarding the PPS and diversity and connectivity of natural features, as well as their long-term ecological function and biodiversity to be maintained and restored and will consider them fully during the PPS's review.

Further, MMAH notes that the PPS provides for a province-wide approach to land use planning, including protection of natural heritage systems. Acts that protect specified areas of concern, such as the *Greenbelt Act*, the *Oak Ridges Moraine Conservation Act* and the *Lake Simcoe Protection Act, 2008*, build on PPS protections while providing the additional detail tailored to and appropriate for those areas.

In addition, under the *Clean Water Act, 2006*, Source Water Protection Plans are being developed, which will identify and protect source water. These plans may provide additional protection for the Waterloo and Paris and Galt moraines.

7.2 The Potential Impacts of Electricity Projects on the Environment

Ministry of the Environment: Since O. Reg. 116/01 came in to effect nine years ago, MOE has reviewed the system for the environmental assessment of electricity projects. As a result, the Government of Ontario created a new co-ordinated approval process to support renewable energy projects, such as wind turbines. The Minister of the Environment also approved a new Class environmental assessment (EA) process for smaller scale hydroelectric facilities.

The environmental impacts of natural gas projects can be appropriately assessed through the Environmental Screening Process (ESP) and mitigated in a manner that is protective of the environment. Proponents are required to conduct an assessment of environmental impacts, describe mitigation measures and weigh the advantages of the project against the remaining impacts.

During the elevation request process, the Director considers whether the net impacts of projects meet ministry standards and if they can be managed during other approvals processes and detailed design. Where warranted, the Director has placed conditions on projects when the decision is made to deny an elevation request, to ensure the protection of the environment.

The assessment of "need" for the project and "alternatives" is conducted by the Ontario Power Authority and MEI through planning processes for electricity generation in Ontario. It would be inappropriate to require a proponent to duplicate those processes during the assessment of its project. The focus of the ESP is to assess the impacts of a project and maintain the highest level of environmental protection.

Ministry of Natural Resources:

The Compliance Protocol is working as designed; note that MNR was first on the scene and notified the Department of Fisheries and Oceans of potential impacts to fish habitat.

7.3 Sand Excavation: When a "Pit" is not a "Pit"

Ministry of Natural Resources:

Policy 5.00.05 supports MNR staff in identifying commonly occurring situations where a licence is not required under the *Aggregate Resources Act* (ARA), and should not be interpreted as providing a means to informally exempt a pit operation from the ARA. The policy clarifies which situations require the provision of additional information and consultation with MNR staff and municipalities. When reviewed by an Aggregate Inspector, in conjunction with the rest of the policies and procedures that support the aggregate resources program, it assists in ensuring the timely and effective implementation of the ARA.

7.4 Not Enough Time: Challenging the Appeal Period under the EBR

Ministry of the Environment:

The Environmental Review Tribunal only requires that the application for leave to appeal be filed during the 15-day period and, according to its Rules of Practice, allows additional time to file supporting material where necessary.

Every decision posted on the Environmental Registry is preceded by a public consultation period of at least 30 days. This provides the public with opportunity to understand the issues and ascertain background information during the early stages of a proposal.

MOE balances providing enough time for public participation with the needs of businesses. Giving the appellate body discretion to extend the deadline would lead to an unpredictable and open-ended decision-making process.

7.5 Too Much Time Wasted in Cambridge Groundwater Contamination

Ministry of the Environment:

Based on the ministry's assessment of the potential for an adverse effect, MOE has devoted the appropriate resources to this issue. MOE prioritized its work on the Cambridge site according to the ministry's Compliance Policy with regard to the potential for health and environmental consequences. The site was deemed to be low risk, based on the following information: low levels of trichloroethylene contamination; not within a municipal drinking water well capture zone; and no risk of vapour intrusion into residential properties. Given this, the use of voluntary measures was the appropriate response to this situation and the use of Orders was not warranted at that stage.

7.6 Planning For Stormy Weather

Ministry of the Environment:

The ministry's review identified the need for a collaborative approach for achieving resilient municipal stormwater management systems. Engagement with municipalities, conservation authorities and others is anticipated.

The ministry anticipates co-ordination of the stormwater policy framework development with the proposed *Water Opportunities and Water Conservation Act, 2010*. Proposed requirements for Municipal Water Sustainability Plans under the proposed Act set out an integrated approach to municipal services/infrastructure planning that would

include assessments of stormwater and the risks posed by changing climate. In addition, the Expert Panel on Climate Change Adaptation has provided recommendations in relation to adaptation that MOE is considering.

Ministry of Natural Resources:

MNR was involved in the MOE-led storm water management review and will continue to be supportive of their efforts.

MNR has initiated a Regional Adaptation Collaborative Gateway project with MOE and Natural Resources Canada. The Gateway will provide local decision makers access to data and information related to weather, water levels and flows and watershed hydrology, building their capacity to adapt to climate change (e.g., high and low water management including urban flooding).

7.7 Protecting Tourism Values in Temagami

Ministry of the Environment:

MOE-approved Declaration Order (MNR-71) sets out the planning requirements to be incorporated into a Forest Management Planning Manual (FMPM). MNR-71 includes broad planning requirements for the consideration of non-timber values, such as tourism, which provides MNR the capability to consider procedures to address tourism values in forest management planning.

Ministry of Tourism and Culture:

The Ministry of Tourism and Culture (MTC) worked with MNR and the forestry and tourism industries on guidelines to address mutual interests. MTC encourages parties to resolve concerns through business-to-business negotiations when developing forest management plans (FMPs) and Resource Stewardship Agreements. MTC welcomes opportunities to work with MNR to strengthen tourism and cultural heritage values in FMPs.

Ministry of Natural Resources:

MTC and MNR have endorsed guidelines that provide advice and tools to protect tourism values. Impacts are mitigated through FMPs that are directed by land use plans. Opportunities for MTC to comment and provide advice are provided in the FMP process.

Part 8: Ministries and the EBR

8.1 Keeping the EBR in Sync with New Laws

Ministry of Municipal Affairs and Housing:

The Building Code sets out detailed technical and administrative provisions for construction, renovation and change of use of buildings in Ontario with only a few parts of the Building Code having environmental/resource implications. Posting all amendments on the EBR could cause delays in amending the Building Code where critical changes are made to the requirements affecting issues of public safety. The Building Code is changed regularly and requirements to post to the EBR may have limited value where changes have little or no environmental implications. Further, MMAH currently has a well-defined and transparent method of consulting on proposed Building Code changes.

Ministry of Agriculture, Food and Rural Affairs:

OMAFRA has moved forward with prescribing regulations and requirements related to deadstock disposal under the *Food Safety and Quality Act (FSQA)*. Instruments under the *FSQA* are primarily facility licences or approvals that are not environmental in nature. OMAFRA is sensitive to concerns raised by the farm community over public access to personal/proprietary information through the posting of nutrient management plans. The standards for nutrient management plans are transparent and clearly articulated and available to the public in the nutrient management regulation.

8.2 Statements of Environmental Values Consideration: Some Best Practices

Ministry of Transportation:

MTO will continue to take the recommendations and advice from the ECO seriously and will work with the other EBR ministries in developing common language and incorporating best practices in MTO's SEV and internal ministry processes.

MTO's SEV was revised in 2008 and an awareness training program was initiated in October 2009. This training is being delivered to MTO staff via a series of Regional and Head Office Lunch & Learns and is expected to be completed in the fall of 2010. To date, seven sessions have been conducted for MTO staff in locations including Toronto, St. Catharines, London, Kingston, Thunder Bay and North Bay. Participation has been excellent with an estimated 200 MTO staff trained to date. This training has raised MTO staff awareness about their legal obligations under the EBR, and the importance of MTO's SEV in policy development and daily operations.

8.3 No Longer In Service: Spot-checks on Ministry Service to the Public

Ministry of the Environment:

The ministry values public access to information on instrument proposals and is committed to providing timely service in response to requests to exercise this right. However, the ministry is obligated to comply with its responsibility to protect certain information as required under the *Freedom of Information and Protection of Privacy Act* when providing information to the public under the EBR. Files marked confidential by the proponent are referred to the Freedom of Information Office to ensure that proprietary information is protected and that public information from these files are made available in a timely manner.

MOE is committed to conducting on-going comprehensive ministry-wide training on the EBR. In 2009/2010, it delivered EBR-related training to over 500 staff, including joint MOE-ECO sessions. Additional training for district offices is planned for the fall.

Ministry of Natural Resources:

MNR is committed to ensuring the public has timely access to supporting information for all instrument proposal notices. The ministry operates according to MGS service standards. The public is encouraged to make appointments with appropriate MNR staff to ensure that access to the information is readily available. MNR will continue to train staff on their role in providing access to information related to Environmental Registry notices.

8.4 Ministry Co-operation with the ECO

Ministry of Municipal Affairs and Housing:

There was a delay in responding since these were for older postings and time was needed to retrieve older records from partner ministries and put together a comprehensive package. MMAH has reviewed its procedures and has processes in place to ensure prompt response times.

Ministry of Natural Resources:

MNR is committed to being responsive to the information needs of the ECO in a timely manner.

MNR made final funding decisions for the Species at Risk program for 2010/11 in May 2010. At that time the ministry reallocated funds to provide additional support for implementation of the *Endangered Species Act, 2007*. The ministry informed the ECO of the new supplemented funding on June 30, 2010 and also provided a detailed work plan.

Part 9: The Environmental Registry

9.1.1 Every Comment Counts

Ministry of Natural Resources:

As required under the EBR, MNR considered all comments received during consultation, including those submitted through the Environmental Registry posting, when finalizing the habitat regulation for the first nine species to receive habitat regulation in Ontario under the *Endangered Species Act, 2007*.

9.2 Reviews of Unposted Decisions

Ministry of the Environment:

Classifying Pesticides Act Instruments under the EBR

The new instrument ensures that public consultation occurs for MNR's natural resources management projects because all MNR proposals to enter into an agreement with a body responsible for managing a natural resources management project that use a Class 9 pesticide under the *Pesticides Act* and O. Reg. 63/09 must be posted on the Environmental Registry for public comment. MOE considered this amendment to be consequential.

Water Supply Wells – Requirements and Best Management Practices Manual

Feedback from users of the first manual has been positive. However, MOE will be posting the second manual (Test Holes and Dewatering Wells - Requirements and Best Management Practices Manual) onto the Environmental Registry for public comment.

Ministry of Municipal Affairs and Housing:

The *Barrie-Innisfil Boundary Adjustment Act, 2009* focuses on adjusting the boundary line between two municipalities and will not change the land use designations currently in place. Subsequent land use decisions will follow the regular land use planning process and must be consistent with the Provincial Policy Statement, 2005. Land use planning decisions must also conform to the Growth Plan for the Greater Golden Horseshoe and the designated policies in the Lake Simcoe Protection Plan. MMAH does not consider this Act to have a significant effect on the environment.

9.3 Use of Information Notices

Ministry of the Environment:

The *Good Government Act, 2009* (Bill 212) reflects input from 22 provincial ministries and included technical changes to Acts that simplify government processes, update language and clarify administrative processes for the regulated community. MOE determined that the 55 amendments for which it is responsible in schedule 15 of the Act, including an amendment to the EBR to clarify regulation-making authority, were of an administrative or technical nature and would not have a significant effect on the environment. As such, an information notice was posted to inform the public of the changes. MOE remains committed to applying the purposes of the EBR, including open and consultative processes, when making decisions that might significantly affect the environment.

Ministry of Natural Resources:

MNR will continue to use information notices where appropriate to inform the public of, and invite comment on, activities that are not prescribed under the EBR.

MNR has been voluntarily posting information notices with comment on the Environmental Registry for *Endangered Species Act, 2007* (ESA) permits and agreements. As of July 1, 2010, instrument proposal notices for classified ESA instruments will be posted on the Environmental Registry. MNR will continue to voluntarily post information notices where appropriate when instrument proposal notices are not required.

9.3.1 Cage Aquaculture Licences: Fishy Public Consultation

Ministry of Natural Resources:

MNR remains committed to providing a co-ordinated, transparent approach to the decision-making process for cage aquaculture licence applications, which incorporates appropriate public and Aboriginal consultation and fulfils MNR's environmental assessment obligations.

At the time of issuing new licences and land tenure to existing cage culture operations, the projects are screened consistent with the Class Environmental Assessment for MNR Resource Stewardship and Facility Projects. Screening to determine the appropriate level of consultations considers, but is not limited to, the record of environmental monitoring and reporting for a site; social, cultural and economic considerations, and Aboriginal considerations.

9.5 Late Decision Notices and Undecided Proposals

Ministry of Municipal Affairs and Housing:

MMAH will post decisions for the five Smart Growth Notices, #PF03E0001, #PF03E0002, #PF03E0003, #PF03E0005 and #PF03E0006 to inform the public that MMAH is no longer responsible for this initiative and will not be making a decision on these proposals.

Ministry of Agriculture, Food and Rural Affairs:

The ministry continues to be committed to meeting its obligations under the EBR. The directive under the *Farming and Food Production Protection Act* was superseded by the process that led to the development of the *Nutrient Management Act, 2002 (NMA)*. The NMA and its regulations were posted for public consultation and the Act is prescribed under the EBR.

Ministry of Natural Resources:

MNR is preparing to post a decision notice for the Proposed Guidelines for Commercial Harvesting of Lake Herring for Bait in the Northwest Region.

Index

Acts, Federal

Fisheries Act 82-83, 212
 Migratory Birds Convention Act 72

Acts, Provincial

Aggregate Resources Act (ARA) 47, 151-155, 218
 Barrie-Innisfil Boundary Adjustment Act 107, 221
 Building Code Act (BCA) 14, 167, 203, 211, 219
 Clean Water Act (CWA) 80, 82, 146, 189, 211, 217
 Condominium Act 164
 Conservation Authorities Act (CAA) 22, 103-104, 109-111, 212
 Crown Forest Sustainability Act (CFSA) 44, 163, 212
 Drainage Act 108-112, 167, 200, 212-213
 Electricity Act 12-13, 15
 Endangered Species Act (ESA) 18, 22-23, 32, 42-57, 59, 72, 167, 189, 199, 206-207, 212, 220-221
 Energy Efficiency Act 14
 Environmental Assessment Act (EAA) 16-17, 47, 123, 148, 150-152, 192-193
 Environmental Bill of Rights (EBR; see separate index listing)
 Environmental Protection Act (EPA) 11-12, 16-21, 24, 26-30, 92, 95, 126-130, 132-133, 137, 139, 151, 154, 159-161, 206
 Environmental Protection Amendment Act (Greenhouse Gas Emissions Trading) 27-30
 Far North Act 61, 118-120, 215
 Fish and Wildlife Conservation Act (FWCA) 22-23, 59, 72, 190, 192-193
 Food Safety and Quality Act (FSQA) 169-170, 221
 Freedom of Information and Protection of Privacy Act (FIPPA) 174-177, 217, 222
 Good Government Act 44, 190, 223
 Green Energy Act (GEA) 11, 16, 166, 168
 Green Energy and Green Economy Act (GEGEA) 11-16, 18, 21, 29-30, 150, 169, 205
 Greenbelt Act 36, 102, 219
 Lake Simcoe Protection Act (LSPA) 101-108, 219
 Lakes and Rivers Improvement Act (LRIA) 50, 104, 209
 Mining Act 61, 113-124, 170, 184, 194, 215-216
 Mining Amendment Act (MAA) 113-124, 184
 Niagara Escarpment Planning and Development Act 20, 36
 Nutrient Management Act (NMA) 17, 133-135, 148, 168, 170, 224
 Oak Ridges Moraine Conservation Act 36, 102, 219
 Ontario Energy Board Act 14
 Ontario Heritage Act 168
 Ontario Water Resources Act (OWRA) 16, 104, 133, 148, 188, 198-199, 206, 214
 Open for Business Act 44, 111
 Pesticides Act 187, 223
 Places to Grow Act 102, 107
 Planning Act 16, 38, 104, 108, 109, 111-112, 152, 158, 214
 Provincial Parks and Conservation Reserves Act (PPCRA) 20, 22, 75-78, 201
 Public Lands Act 22, 104, 110, 122, 216
 Safe Drinking Water Act (SDWA) 169
 Sustainable Water and Sewage Systems Act 86
 Toxics Reduction Act (TRA) 86, 90-95, 183-184
 Water Opportunities and Water Conservation Act 163, 205, 212, 219-220

Aggregates (see Land Use)

Agriculture (also see Land Use)

aggregate extraction (for agricultural improvement) 155-157, 220
 biochar 136, 140-142, 202, 218
 compost 126, 135-140, 179, 202, 218
 Drainage Act 108-112, 167, 200, 212-213
 Food Safety and Quality Act (FSQA) 169-170, 221
 Ministry of Agriculture, Food and Rural Affairs (OMAFRA) 46, 108-112, 133-134, 138, 140, 141-142, 155-157, 169-170, 214, 218, 221

non-agricultural source materials (NASM) 126, 132-134, 139
 Nutrient Management Act (NMA) 17, 133-135, 148, 168, 170, 224
 O. Reg. 267/03 - Nutrient Management 133-134
 sewage biosolids (application on agricultural land) 132-134

Air (also see Climate Change)

air quality standards 95-99
 Certificates of Approval (Cs of A) 98, 144, 151, 173, 197
 City of Greater Sudbury 101
 emission reductions (air) 97-98, 195
 Environmental Protection Act (EPA) 92, 95-99
 O. Reg. 127/01 - Airborne Contaminants 92
 O. Reg. 419/05 - Air Pollution - Local Air Quality 95-99
 particulate matter 100
 street-level air monitoring 99-101

Appeals

appeal period 157-159
 appeals under the EBR 157-159
 Environmental Review Tribunal 18, 158, 161, 195, 197, 220
 permits to take water 195

Biodiversity (also see Wildlife)

afforestation 32, 37-41, 201, 208
 climate change impacts on biodiversity 32-36, 207-208
 Committee on the Status of Species at Risk in Ontario (COSSARO) 43, 60
 Conservation Land Tax Incentive Program 48, 209
 ecological integrity 32, 65, 74-78, 149, 211
 Endangered Species Act (ESA) 18, 22-23, 32, 42-57, 59, 72, 167, 189, 199, 206-207, 212, 220-221
 Environmental Assessment Act (EAA) 192
 Far North Act 61
 Fish and Wildlife Conservation Act (FWCA) 22-23, 59, 72, 190, 192-193
 Good Government Act 44
 International Year of Biodiversity 32, 42-43
 management plans for species at risk 44-45, 47-48, 208
 Ministry of Agriculture, Food and Rural Affairs (OMAFRA) 46, 108-112, 214
 Ministry of Natural Resources (MNR) 18, 22-24, 32-78, 104, 106, 109-112, 118, 153-154, 164-165, 188-189, 191-193
 Ministry of Northern Development, Mines and Forestry (MNDMF) 45, 70, 74, 114, 119, 164-165, 194
 O. Reg. 230/08 - Species at Risk in Ontario List 43, 72
 O. Reg. 242/08 - General Regulation, Endangered Species Act 46-47, 53-55
 Oak Ridges Moraine Conservation Act 36, 102, 219
 Open for Business Act 44, 111
 Provincial Parks and Conservation Reserves Act (PPCRA) 20, 22, 75-78, 201
 recovery strategies for species at risk 44-45, 48, 50-53, 207-209
 seed stocking 40
 Wildlife Management Unit (WMU) 57, 58, 63, 66, 68, 210

Climate Change (also see Air; Energy)

biodiversity and climate change 32-36, 207-208
 cap-and-trade 11, 25-30, 206-207, 218
 carbon footprint 11
 emission reduction (greenhouse gases) 28, 30
 Environmental Protection Act (EPA) 11, 24-30
 Environmental Protection Amendment Act (Greenhouse Gas Emissions Trading) 27-30
 Expert Panel on Climate Change Adaptation 35, 36, 73, 207, 221

Green Energy and Green Economy Act

- (GEGEA) 29
- greenhouse gas emissions reporting 24-27
- greenhouse gases (GHGs) 24-30, 126, 150, 206-207
- O. Reg. 452/09 - Greenhouse Gas Emissions Reporting 24-27
- Western Climate Initiative 25-26, 28-29, 206, 218

Endangered Species (see Biodiversity; Wildlife)**Energy**

- anaerobic digestion 17, 19, 135, 139, 218
- annual reporting by the ECO 14-15
- Approval and Permitting Requirements Document for Renewable Energy Projects (Requirements Document) 17, 21-22, 206
- Building Code Act (BCA) 14, 169
- Certificates of Approval (Cs of A) 17
- Electricity Act 12-13, 15
- Energy Efficiency Act 14
- energy-from-waste 134
- Feed-in Tariff (FIT) program 12, 16, 150, 205
- forest biofibre 73-74
- Green Energy Act (GEA) 11, 16, 166, 168
- Green Energy and Green Economy Act (GEGEA) 11-16, 18, 21, 29-30, 150, 169, 205
- Ministry of Energy and Infrastructure (MEI) 8, 14, 169, 190, 205, 220
- O. Reg. 116/01 - Electricity Projects 150-151, 153-154, 219
- O. Reg. 217/01 - Liquid Fuels 175
- O. Reg. 359/09 - Renewable Energy Approvals (REA Regulation) 12, 16-21, 24, 139, 151, 206
- Ontario Energy Board Act 14
- Ontario Power Authority (OPA) 12, 15, 205, 220
- renewable energy approval (REA) 12, 16-21, 24, 139, 151, 206
- Smart Grid 12-14
- wind turbines 151-154, 206, 219
- Wolfe Island 153-154
- York Energy Centre 151

Environmental Assessment

- Class Environmental Assessment for Provincial Parks and Conservation Reserves 76, 78, 211
- Class Environmental Assessment for Resource Stewardship and Facility Development 122-123, 192-193, 224
- Environmental Assessment Act (EAA) 16-17, 47, 123, 148, 150-152, 192-193
- Municipal Class Environmental Assessment 153-154
- requirements for energy projects 150-152, 219

Environmental Bill of Rights

- appeals under EBR 197-199
- Building Code Act (BCA) 169
- Cambridge 159-162
- Environmental Bill of Rights Office (EBRO) 172, 178
- harm to a public resource 197, 200
- instruments classification 47, 119, 134, 168-170, 174-175, 187, 191, 197, 209, 218, 221, 223
- keeping the EBR in sync with new laws 168-170
- leave to appeal applications 157-159, 197-199, 220
- ministries' duty to investigate (EBR subsection 77(3)) 162
- ministries prescribed under the EBR 8
- ministry cooperation 178-180
- O. Reg. 166/09 - Amending O. Reg. 681/94 187
- O. Reg. 217/01 - Liquid Fuels 175
- O. Reg. 681/94 - Classification of Proposals for Instruments 47, 168-169, 187, 192-193
- O. Reg. 73/94 - General Regulation, EBR 168
- Paris and Galt Moraines 145-150, 202, 219
- right to sue 197, 200

- rights under the EBR 7-9, 182-185, 197-200
- SEV consideration 170-173, 179
- Statements of Environmental Values (SEVs) 7, 20, 47, 168, 189, 198, 199
- Summer Beaver Airport 8-9
- Waterloo Moraine 145-150, 202, 219
- whistleblower rights 197, 200

Environment Commissioner of Ontario

- annual reporting on energy 14-15
- Annual Report to Legislature 7
- applications for review or investigation 144-166
- blog 9
- ECO Public Information and Outreach Officer 9
- ECO Recognition Award 8-9
- ECO website 7, 9
- education and outreach 9
- Environmental Bill of Rights (see separate listing)
- financial statements 203-204
- Message from Commissioner 4-5
- recommendations, 2009/2010 201-202
- role of the ECO 7
- Special Reports 42
- Summer Beaver Airport 8-9

Environmental Registry

- appeals 197-199
- exception notices 193-194
- Freedom of Information and Protection of Privacy Act (FIPPA) 174-177, 217, 222
- information notices 189-193
- late decision notices 194-195
- proposal and decision notices 174-180, 182-186, 195
- public comment period 182-184
- quality of information 182-186
- Statements of Environmental Values (SEVs) 7, 20, 47, 168, 189, 198, 199
- undecided proposals 194-195
- unposted proposals and decisions 186-189

Fish (also see Wildlife; Biodiversity)

- American eels 49-50
- cage aquaculture 191-193, 224
- Endangered Species Act (ESA) 18, 42-53
- Fish and Wildlife Conservation Act (FWCA) 72, 192-193
- fish habitat 22, 52, 154, 208, 220
- lake trout 35, 101-102, 207
- Lakes and Rivers Improvement Act (LRIA) 50, 209
- Ministry of Natural Resources (MNR) 18, 22-24, 49-50, 52-53, 154, 191-193
- Moses-Saunders Dam 49-50
- O. Reg. 664/98 - Fish Licensing 192
- reidside dace 52-53

Forestry (also see Land Use)

- afforestation 32, 37-41, 201, 208
- agreement forest 37
- area of concern 72
- Area of the Undertaking (AOU) 46, 60, 65, 70, 72, 73
- Crown Forest Sustainability Act (CFSA) 44, 163, 212
- ecological integrity 74
- forest biofibre 73-74
- Forest Management Plan (FMP) 44, 55, 58, 65, 70, 165, 190, 209-210, 221
- Managed Forest Tax Incentive Program (MFTIP) 38-41, 208
- Ministry of Natural Resources (MNR) 37-41, 44, 46, 55-56, 60-62, 65, 70-74, 211
- Ministry of Northern Development, Mines and Forestry (MNDMF) 70, 73-74, 210
- Ontario Tree Seed Plant 37, 40

provincially significant wetlands (PSWs) 71, 74
 residual forest 70, 74
 shoreline harvest 71-72, 74, 211
 Stand and Site Guide (Forest Management Guide for
 Conserving Biodiversity at the Stand and Site Scales) 32, 46,
 70-74, 210-211

Land Use

afforestation 37-41, 208
 aggregates 154, 155-157, 198, 220
 Area of the Undertaking (AOU) 46, 60, 65, 70, 72
 Barrie-Innisfil Boundary Adjustment Act 107, 223
 Clean Water Act (CWA) 148, 213
 Condominium Act 104
 conservation authorities 22, 37, 38, 103, 104, 108, 109, 214
 Conservation Authorities Act (CAA) 22, 103, 109-111, 214
 Crown Forest Sustainability Act (CFSA) 44, 165, 214
 Drainage Act 108-112, 214-215
 ecological integrity 74-78, 149, 211
 Endangered Species Act (ESA) 18, 22-24, 42, 46-48, 53, 72, 209
 Environmental Assessment Act (EAA) 16, 123, 148, 192
 Far North Act 61, 118-120, 215
 Findlay Creek Village 198
 forest management plan (FMP) 44, 55, 58, 65, 70, 165, 210, 221
 Goulbourn Wetland Complex 110, 111
 Greenbelt Act 36, 102, 219
 Growth Plan for the Greater Golden Horseshoe 88, 102, 145,
 148, 149, 219, 223
 Lake Simcoe Protection Act (LSPA) 101-108, 219
 land use planning 80, 90, 107, 118-120, 124, 145, 149, 153, 214,
 219, 223
 Managed Forest Tax Incentive Program (MFTIP) 38-41, 208
 Ministry of Municipal Affairs and Housing (MMAH) 38, 109-111,
 148, 149, 207, 208, 214, 219, 223, 224
 Ministry of Natural Resources (MNR) 37, 70, 75-78, 108
 Ministry of Northern Development, Mines and Forestry (MNDMF)
 114, 119, 124
 natural heritage 20, 38, 75, 104, 105, 107, 119, 145, 149, 208, 213,
 214, 219
 Niagara Escarpment Planning and Development Act 20, 36
 O. Reg. 219/09 - General Regulation, Lake Simcoe Protection
 Act 104
 Oak Ridges Moraine Conservation Act 36, 102, 219
 Ontario Parks Phase-Out Policy 77, 188-189
 Places to Grow Act 102, 107, 201
 Planning Act 38, 104, 108, 109, 111, 152, 214
 Protected Areas Planning Manual 75-78, 211
 Provincial Policy Statement (PPS) 38, 106-107, 109-112, 148, 149,
 198, 208
 Provincial Policy Statement Review 207, 214, 219
 provincially significant wetlands (PSWs) 38, 71, 74, 80, 109-112,
 119, 213, 214
 Public Lands Act 22, 122, 216
 Temagami 164-165, 221

Mining and Mineral Development (also see Land Use)

chromite 122, 123
 environmental assessment 122-124 (also see separate listing)
 Inco 199
 map staking 115, 117, 118, 120, 124, 215
 mineral exploration 45, 46, 114-122, 124, 216
 Mining Act 61, 114-124, 184, 194, 215, 216
 Mining Amendment Act (MAA) 114-120, 121, 184
 mining claims 117, 119, 123, 124, 216
 Ministry of Natural Resources (MNR) 118, 121, 215-216
 Ministry of Northern Development, Mines and Forestry (MNDMF)
 114-123, 170, 184, 191, 194, 215, 216
 Ring of Fire 122, 123, 216
 surface rights only (SRO) properties 114-119
 uranium 120-121

Ministries

Ministry of Agriculture, Food and Rural Affairs (OMAFRA) 8, 46,
 108, 109, 111, 112, 133, 134, 138, 140-142, 144, 155, 157, 169,
 170, 202, 214, 215, 218, 221, 224
 Ministry of Consumer Services (MCS) 8, 144, 180, 186, 197
 Ministry of Culture (MCL) - see Ministry of Tourism and Culture
 Ministry of Energy - see Ministry of Energy and Infrastructure
 Ministry of Energy and Infrastructure (MEI) 8, 14, 45, 144, 163,
 169, 190, 205, 219, 220
 Ministry of the Environment (MOE) 8, 16-18, 20-22, 24-26, 28, 29,
 45, 47, 80, 82-90, 94-104, 106, 107, 111, 121, 126-132, 137, 139,
 140, 142, 144, 148-150, 151-154, 157-159, 160, 161, 163, 164,
 166, 168, 169, 171, 172, 174, 175, 178, 179, 183, 184, 186-188,
 190, 191, 193-195, 197-202, 206, 207, 211-215, 217-223
 Ministry of Infrastructure - see Ministry of Energy and
 Infrastructure
 Ministry of Municipal Affairs and Housing (MMAH) 8, 14, 38, 109-
 111, 121, 144, 148, 149, 163, 169, 179, 183, 186, 190, 195, 202,
 205, 207, 208, 213, 214, 219, 221, 222-224
 Ministry of Natural Resources (MNR) 8, 17, 18, 20-24, 32, 33, 36-
 71, 73-78, 104, 106, 109-112, 118, 121-124, 144, 148, 153-157,
 163, 164, 166, 170-176, 178, 179, 185-193, 201, 206-216, 219-224
 Ministry of Northern Development, Mines and Forestry (MNDMF)
 8, 45, 70, 74, 114, 116, 118, 119, 120-124, 144, 165, 170, 179,
 184, 190, 191, 193, 194, 202, 210, 215, 216
 Technical Standards and Safety Authority (TSSA) 144, 174-178,
 180, 197
 Ministry of Tourism (TOUR) - see Ministry of Tourism and Culture
 Ministry of Tourism and Culture (MTC) 8, 165, 221
 Ministry of Transportation (MTO) 8, 9, 144, 163, 190, 207, 208, 222

Northern Ontario

boreal forest 35, 57, 60, 70, 122
 caribou 35, 45, 46, 57-65, 201, 209, 210
 chromite 122, 123
 Far North Act 61, 118-120, 215
 Mining Amendment Act (MAA) 114-120, 121, 184
 Ministry of Natural Resources (MNR) 164
 Ministry of Northern Development, Mines and Forestry (MNDMF)
 114, 116, 118-124, 165
 polar bear 34
 Ring of Fire 122, 123, 216
 surface rights only (SRO) properties 114-119

Parks and Protected Areas (see Land Use; Wildlife; Biodiversity)

Planning (see Land Use)

Regulations, Provincial

O. Reg. 116/01 - Electricity Projects 150-151, 153-154, 219
 O. Reg. 127/01 - Airborne Contaminants 92
 O. Reg. 166/09 - Amending O. Reg. 681/94 187
 O. Reg. 217/01 - Liquid Fuels 175
 O. Reg. 219/09 - General Regulation, Lake Simcoe Protection
 Act 104
 O. Reg. 230/08 - Species at Risk in Ontario List 43, 72
 O. Reg. 232/98 - Landfilling Sites 126, 128-130
 O. Reg. 242/08 - General Regulation, Endangered Species Act
 46-47, 53-55
 O. Reg. 267/03 - Nutrient Management 133-134
 O. Reg. 359/09 - Renewable Energy Approvals (REA Regulation)
 12, 16-21, 24, 139, 151, 206
 O. Reg. 387/04 - Water Taking 198, 199
 O. Reg. 419/05 - Air Pollution - Local Air Quality 95-99
 O. Reg. 452/09 - Greenhouse Gas Emissions Reporting 24-27
 O. Reg. 455/09 - General Regulation, Toxics Reduction Act 90,
 91, 94
 O. Reg. 63/09 - Pesticides Regulation 187, 223
 O. Reg. 664/98 - Fish Licensing 192

O. Reg. 73/94 - General Regulation, EBR 168
 Reg. 347 - General Regulation, Waste Management 126, 128, 129, 133, 154

Toxics

Emission Summary and Dispersion Modelling (ESDM) 95-98
 leachate 126, 128, 130, 131
 Ministry of the Environment (MOE) 90, 94, 95
 National Pollutant Release Inventory (NPRI) 91-95
 O. Reg. 455/09 - General Regulation, Toxics Reduction Act 90, 91, 94
 O. Reg. 63/09 - Pesticides Regulation 187, 223
 Pesticides Act 187, 223
 Toxic Substance Reduction Plan 91-93
 Toxics Reduction Act (TRA) 86, 90-95, 183
 volatile organic compounds (VOCs) 159

Waste Management

biochar 136, 140, 141, 142, 218
 Certificates of Approval (Cs of A) 126-133, 193, 217, 218
 compost 126, 135-140, 179, 218
 landfills 107, 126-131, 135, 137, 139, 217
 Ministry of the Environment (MOE) 126-134, 137, 139, 140, 217, 218
 Moscow Landfill 127, 130, 179, 217
 non-agricultural source materials (NASM) 126, 133, 134, 139, 217
 Nutrient Management Act (NMA) 17, 133, 134, 148, 168, 170, 224
 O. Reg. 232/98 - Landfilling Sites 126, 128-130
 O. Reg. 267/03 - Nutrient Management 133, 134, 217
 organic waste 134-141, 218
 Reg. 347 - General Regulation, Waste Management 126, 128, 129, 133, 154
 residuals 126, 135, 137-139, 140
 sewage biosolids 132-135, 217
 tires 9, 131-132, 200, 217
 Waste Diversion Ontario (WDO) 137

Water

aquifers 5, 145
 cage aquaculture 191-193, 224
 Canadian Council of Ministers of the Environment (CCME) 82-87, 211
 Certificates of Approval (Cs of A) 83
 City of Guelph 80, 87, 88, 145, 212
 City of Ottawa 50, 81, 82, 87, 99, 100, 108, 110-112, 137, 198, 214
 Clean Water Act (CWA) 80, 82, 148, 191, 213, 219
 combined sewer overflow (CSO) 85, 211
 Conservation Authorities Act (CAA) 103, 104, 109-111, 214, 215
 decentralized wastewater treatment 86, 89, 90, 212
 E. coli 81, 83
 flooding 22, 81, 108, 111, 140, 162, 166, 221
 Great Lakes 33, 35, 50, 68, 80, 81, 83-86, 88, 101, 191, 192, 193, 211, 212
 habitat 35, 47, 49, 52, 53, 55, 56, 108, 154, 208, 220
 Lake Simcoe 20, 80, 84, 86, 101-108, 149, 213, 219, 223
 Lake Simcoe Protection Act (LSPA) 101, 102, 104, 106, 107, 219
 Lakes and Rivers Improvement Act (LRIA) 50, 104, 209
 Ministry of the Environment (MOE) 82-90, 101-104, 106, 107, 112, 211, 212, 220
 moraines 20, 36, 102, 104, 105, 145, 148, 149, 213, 214, 219
 O. Reg. 387/04 - Water Taking 198, 199
 Ontario Water Resources Act (OWRA) 16, 104, 133, 148, 188, 198, 199, 206, 214
 Open for Business Act 111
 optimization (of wastewater treatment) 87-89, 212
 permit to take water (PTTW) 195, 197-199
 Peterborough 162
 phosphorus 83, 84, 86, 89, 102-104, 107, 107, 191, 211-213

provincially significant wetlands (PSWs) 38, 71, 74, 80, 106, 109-112, 119, 153, 198, 202, 213, 214
 Safe Drinking Water Act (SDWA) 169
 septic systems 89, 90, 103, 107, 148, 213
 sewage discharge 16, 80-82, 84-89, 90, 103, 104, 163, 211-213
 sewage treatment 80-82, 84, 85, 87-90, 103, 132, 211, 212
 source water protection 219
 stormwater management 104, 111, 162-164, 215, 220
 Sustainable Water and Sewage Systems Act 86
 wastewater effluent 80-83
 Water Opportunities and Water Conservation Act 163, 205, 212, 219, 220
 water supply wells 188, 223
 Waterloo and Paris Galt moraines 145-149, 219
 wetlands 20, 35, 38, 71, 74, 80, 89, 103, 105-112, 119, 130, 131, 145, 148, 153, 154, 166, 198, 213-215, 217
 York Durham Sewer System 89

Wildlife (also see Biodiversity)

adaptive management 58, 62, 64, 69, 76, 209
 American eels 49-50
 bears 23, 32, 34, 65-69, 210
 biodiversity (also see separate index listing) 32, 36, 38, 39, 41, 43, 44, 46, 51, 52, 57, 65, 70, 71, 73-75, 77, 108, 141, 149, 207, 208, 210, 211, 219
 cage aquaculture 191-193, 224
 caribou 35, 45, 46, 57-59, 60-65, 209, 210
 cervids (also see caribou, deer, elk and moose) 32, 35, 57-65, 209, 210
 deer 32, 34, 35, 57-59, 64-66, 70, 209
 elk 32, 35, 57, 59, 63, 64, 190, 209
 Endangered Species Act (ESA) 18, 22, 23, 32, 42-53, 55, 59, 61, 72, 169, 191, 208, 209, 214, 222, 223
 Fish and Wildlife Conservation Act (FWCA) 22, 23, 59, 72, 190, 192, 193
 habitat fragmentation 32, 60, 112
 habitat loss 32, 42, 53, 55, 56, 60, 64, 112, 185, 207
 habitat protection 32, 36, 48, 53, 54, 55, 72, 185, 209
 hunting and harvesting 32, 42, 49, 57-59, 62-69, 210
 invasive species 39, 41, 42, 104, 207
 Ministry of Natural Resources (MNR) 32, 36, 37, 41-70, 207-210
 moose 32, 34, 35, 57-59, 62-66, 70, 209, 210
 natural heritage 20, 38, 75, 104, 105, 107, 119, 145, 149, 208, 213, 214, 219
 O. Reg. 230/08 - Species at Risk in Ontario List 43, 72
 O. Reg. 242/08 - General Regulation, Endangered Species Act 46-47, 53-55
 Open for Business Act 44, 111
 Provincial Parks and Conservation Reserves Act (PPCRA) 20, 22, 75-78, 211
 reidside dace 52, 53
 species at risk 17, 32, 42-48, 51, 53-55, 59, 60, 62, 70, 72, 124, 179, 185, 208, 209, 210, 222
 wildlife monitoring program 61
 wolves 35, 46, 64, 66, 72
 wood turtle 46, 47, 53, 55, 56, 208



Gord Miller

Commissioner

Carrie Cauz

Research Center Coordinator

Emily Cooper

Policy & Decision Analyst

Hayley Easto

Communications and Outreach Coordinator

Chris Gates

Senior Manager, Climate Change Policy

Jessica Isaac

Policy & Decision Analyst

Lucy Kang

Policy & Decision Analyst

Michelle Kassel

Senior Policy Advisor

Peter Lapp

Director of Operations

Jo-Anne MacKinnon

HR, Finance & Administration Coordinator

Dania Majid

Policy & Decision Analyst

Ioannis Matthaios

Policy & Decision Analyst

Glenn Munroe

Policy & Decision Analyst

Stacey O'Malley

Policy & Decision Analyst

Nancy Palardy

Policy & Decision Analyst

Mike Parkes

Policy & Decision Analyst

Nadine Sawh

Case Management Assistant

Tyler Schulz

Policy & Decision Analyst

Ellen Schwartzel

Senior Manager, Policy Analysis

Carolyn Shaw

Policy & Decision Analyst

Yazmin Shroff

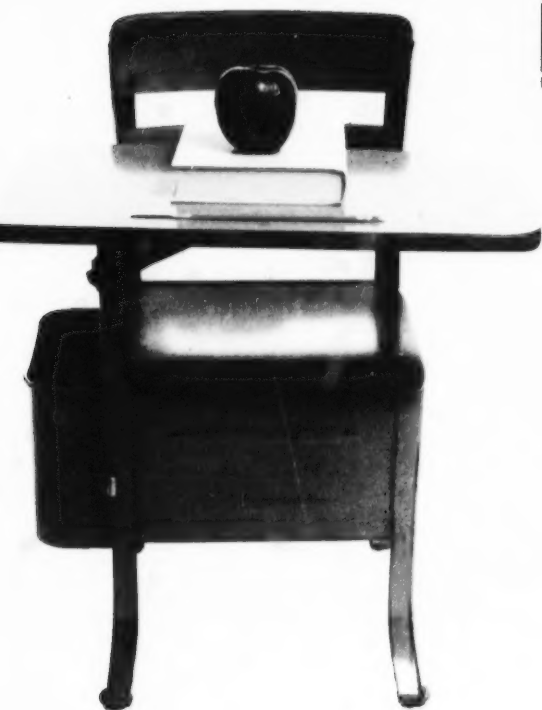
Public Information/Outreach Officer

Martin Whicher

Senior Manager, Conservation and Demand Management

Christopher Wilkinson

Senior Policy Advisor



Environmental Commissioner of Ontario
1075 Bay Street, Suite 605
Toronto, Ontario, Canada M5S 2B1

Telephone: 416-325-3377
Fax: 416-325-3370
Toll Free: 1-800-701-6454

www.eco.on.ca

Disponible en français
ISSN 1205-6298

This Annual Report is printed on Canadian-made Rolland Enviro 100 paper manufactured from 100% post-consumer waste fibre, is Process Chlorine Free (PCF) and used BioGas in its production (an alternative "green energy" source produced from decomposing waste collected from landfill sites) to reduce greenhouse gas emissions and the depletion of the ozone layer.

Rolland Enviro 100 saves the harvesting of mature trees, reduces solid waste that would have gone into landfill sites, uses 80% less water than conventional paper manufacturing and helps reduce air and water pollution.

* Font cover text credit: The American Heritage® Science Dictionary
Copyright © 2005 by Houghton Mifflin Company. Published by Houghton Mifflin Company. All rights reserved.
Source: <http://www.thefreedictionary.com/conservation>



Certified



Processed Chlorine Free



100% Post-Consumer Waste Fibre



Recyclable Where facilities Exist



Green Energy Source



Supporting responsible use
of forest resources
www.fsc.org Cert no. SW-COC-002080
© 1996 Forest Stewardship Council

